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Art Unit: 1655 Phone Number: 2- Serial Number: 10/775,953

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To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

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Date Searcher Picked Up: _____

Date Completed: _____

Searcher Prep & Review Time: _____

Online Time: _____

Type of Search

_____ NA Sequence (#)

_____ AA Sequence (#)

_____ Structure (#)

_____ Bibliographic

_____ Litigation

_____ Fulltext

_____ Other

Vendors and cost where applicable

~~_____~~ STN _____ Dialog

_____ Questel/Orbit _____ Lexis/Nexis

_____ Westlaw _____ WWW/Internet

____In-house sequence systems

____Commercial ____Oligomer ____Score/Length

____ Interference ____ SPDI ____ Encode/Transl

_____ Other (specify)

Gitomer, R.
10/775953

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L1	420494	SEA FILE=CAPLUS ABB=ON PLU=ON (ANALYTE OR ENZYME) AND (MEAS? OR DETERM? OR DETECT? OR DET## OR SCREEN? OR QUANT? OR ASSAY?)
L2	516	SEA FILE=CAPLUS ABB=ON PLU=ON L1 AND LIGHT(3A)EMIT?
L3	57	SEA FILE=CAPLUS ABB=ON PLU=ON L2 AND (TURBID? OR COLOUR? OR COLOR?)
L4	16	SEA FILE=CAPLUS ABB=ON PLU=ON L3 AND FLUORESCEN?
L5	16390	SEA FILE=CAPLUS ABB=ON PLU=ON (ANALYTE OR ENZYME)(5A)(CONCENTRAT? OR CONC##) AND (MEAS? OR DETERM? OR DETECT? OR DET## OR SCREEN? OR QUANT? OR ASSAY?)
L6	58	SEA FILE=CAPLUS ABB=ON PLU=ON L5 AND LIGHT(3A)EMIT?
L7	5	SEA FILE=CAPLUS ABB=ON PLU=ON L6 AND (TURBID? OR COLOUR? OR COLOR?)
L8	21	L4 OR L7

L8 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:1093403 CAPLUS
DOCUMENT NUMBER: 143:454692
TITLE: Basic and applied aspects of **color** tuning of bioluminescence systems
AUTHOR(S): Ohmiya, Yoshihiro
CORPORATE SOURCE: Research Institute for Cell Engineering, National Institute of Advanced Industrial Science and Technology, PRESTO, Japan Science and Technology Agency, 1-8-31 Midorigaoka, Ikeda, Osaka, 563-8577, Japan
SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Brief Communications & Review Papers (2005), 44(9A), 6368-6379
CODEN: JAPNDE

PUBLISHER: Japan Society of Applied Physics
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review. V. Viviani et al. were the first to succeed in cloning the red-emitting **enzyme** from the South American railroad worm, which is the only bioluminescent organism known to **emit** a red-**colored light**. The application of red bioluminescence has been our goal because the transmittance of longer-wavelength light is superior to that of the other **colors** for visualization of biol. functions in living cells. Now, different **color** luciferases, which emit with wavelength maxima ranging from 400 to 630 nm, are available and are being used. For example, based on different **color** luciferases, Nakajima et al. developed a tricolor reporter in vitro **assay** system based on these different **color** luciferases in which the expression of three genes can be monitored simultaneously. On the other hand, bioluminescence resonance energy transfer (BRET) is a natural phenomenon caused by the intermol. interaction between a bioluminescent protein and a fluorophore on a second protein, resulting in the light from the bioluminescence reaction having the spectrum of the fluorophore. Otsuji et al. showed that the change in the efficiency of energy transfer in intramol. BRET can **quantify** cellular functions in living cells. In this review, I introduce the basic mechanisms of **color** tuning in bioluminescent systems and new applications based on **color** tuning in the life sciences.
REFERENCE COUNT: 96 THERE ARE 96 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:52490 CAPLUS
DOCUMENT NUMBER: 142:402962
TITLE: Integrated chemical/biochemical sample collection, pre-concentration, and analysis on a digital microfluidic lab-on-a-chip platform
AUTHOR(S): Fair, Richard B.; Khlystov, A.; Srinivasan, Vijay; Pamula, Vamsee K.; Weaver, Kathryn N.
CORPORATE SOURCE: Department of Electrical and Computer Engineering, Duke Univ., Durham, NC, 27708, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2004), 5591(Lab-on-a-Chip: Platforms, Devices, and Applications), 113-124
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An ideal on-site chemical/biochem. anal. system must be inexpensive, sensitive, fully automated and integrated, reliable, and compatible with a broad range of samples. The advent of digital microfluidic lab-on-a-chip (LoC) technol. offers such a **detection** system due to the advantages in portability, reduction of the vols. of the sample and reagents, faster anal. times, increased automation, low power consumption, compatibility with mass manufacturing, and high throughput. The authors describe progress towards integrating sample collection onto a digital microfluidic LoC that is a component of a cascade impactor device. The sample collection is performed by impacting airborne particles directly onto the surface of the chip. After the

collection phase, the surface of the chip is washed with a micro-droplet of solvent. The droplet will be digitally directed across the impaction surface, dissolving sample constituents. Because of the very small droplet volume used for extraction of the sample from a wide collection area, the resulting solution is relatively **concd** . and the **analytes** can be **detected** after a very short sampling time (1 min) due to such pre-concentration After the washing phase, the droplet is mixed with specific reagents that produce **colored** reaction products. The **concentration** of the **analyte** is **quant. determined** by **measuring** absorption at target wavelengths using a simple **light emitting** diode and photodiode setup. Specific applications include automatic **measurements** of major inorg. ions in aerosols, such as sulfate, nitrate and ammonium, with a time resolution of 1 min and a **detection** limit of 30 nm/m3. The authors have already demonstrated the **detection** and **quantification** of nitroarom. explosives without integrating the sample collection. Other applications being developed include airborne bioagent **detection**.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:180350 CAPLUS
DOCUMENT NUMBER: 140:213505
TITLE: Analytical chips and analytical apparatus
INVENTOR(S): Iida, Kazuhiro
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 2004069397	A2	20040304	JP 2002-226750		20020802
WO 2004036194	A1	20040429	WO 2003-JP9855		20030804
W: CN, JP, US					
US 2005239210	A1	20051027	US 2005-523019		20050202
PRIORITY APPLN. INFO.:			JP 2002-226750	A	20020802
			WO 2003-JP9855	W	20030804

AB The anal. chips for **detection** of specific components in samples have flow paths for the samples, a **detection** unit which develops **color, emits light,** changes **colors,** is decolorized, or is quenched upon contact with the specific components, placed in the flow paths, and a lamp at the **detection** unit or a microlens formed to cover the **detection** unit. The anal. apparatus containing the chips have a simple structure and are useful for **detection** and **determination** of biomarkers in body fluids.

L8 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:120765 CAPLUS
DOCUMENT NUMBER: 140:176344

TITLE: Sequences of Sim2 gene, the expression pattern of the gene, and uses in diagnosis and treatment of ovarian, breast and lung cancers
INVENTOR(S): Hermesh, Chen; Walach, Shira; Rotman, Galit; Sela-Tavor, Osnat
PATENT ASSIGNEE(S): Compugen Ltd., Israel
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004012847	A1	20040212	WO 2003-IL636	20030803
WO 2004012847	C1	20040610		
WO 2004012847	C2	20040715		
WO 2004012847	A3	20040910		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2494356	AA	20040212	CA 2003-2494356	20030803
EP 1545566	A2	20050629	EP 2003-766602	20050301
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.:

US 2002-400131P	P	20020802
US 2003-452681P	P	20030307
WO 2003-IL636	W	20030803

AB The present invention provides a method of diagnosing predisposition to, or presence of ovarian cancer, breast cancer and/or lung cancer in a subject by **determining** the gene Sim2 expression pattern. Specifically, the method comprises **determining** a level of SIM2 in a lung tissue, breast tissue and/or ovarian tissue of the subject, the level being correlatable with predisposition to, or presence or absence of the ovarian cancer, breast cancer and/or lung cancer, thereby diagnosing predisposition to, or presence of ovarian cancer, breast cancer and/or lung cancer in the subject.

L8 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:1007101 CAPLUS
DOCUMENT NUMBER: 140:54442
TITLE: Oligonucleotides, antibodies and kits for **determinating** predisposition of Ashkenazi descent to prostate cancer by analyzing mutations of RNASEL gene
INVENTOR(S): Orr-Urtreger, Avi; Rennert, Hanna; Bercovich,

Dani; Bar-Shira, Anat; Yaron, Yuval
PATENT ASSIGNEE(S): Tel Aviv Medical Center Research Development Fund, Israel
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003106617	A2	20031224	WO 2003-IL507	20030612
WO 2003106617	A3	20050414		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005221326	A1	20051006	US 2004-516303	20041210
PRIORITY APPLN. INFO.:			US 2002-387589P P	20020612
			WO 2003-IL507 W	20030612

AB The present invention provides a method of **determining** predisposition of an individual of Ashkenazi descent to prostate cancer by analyzing mutations of RNASEL gene. The method comprises **determining** a presence or absence of at least one nucleic acid sequence alteration in at least one allele of a RNASEL gene of the individual, wherein the presence of the at least one nucleic acid sequence alteration indicates predisposition to prostate cancer in the individual.

L8 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:372822 CAPLUS
DOCUMENT NUMBER: 138:331653
TITLE: **Detection** method for **quantitative** PCR and immuno-PCR and its test kit
INVENTOR(S): Guo, Zhanjun; Zhao, Hua; Guo, Aiqin
PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 16 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1356551	A	20020703	CN 2001-130226	20011108
PRIORITY APPLN. INFO.:			CN 2001-130226	20011108

AB The invention provides method and reagents for **quant.** PCR and immuno-PCR. The method comprises coating the stabilized antibody (such as polyclonal antibody, monoclonal antibody, or egg yolk antibody IgY) on the bottom of the modified Eppendorf tube, adding sample and standing at 37° for 10-60 min, fragmentating with lysis buffer at 63° for 30 min, PCR amplifying, hybridizing with two kinds of fluorescein- or digoxin-labeled probes at 90° for 2-5 min and at 55° for 1-10 min, washing, adding alkaline phosphatase-labeled anti-fluorescein antibody or anti-digoxin antibody and horseradish peroxidase- or another **enzyme**-labeled anti-digoxin antibody (anti- fluorescein antibody, or anti-another **fluorescent** antibody), standing at 37° for 30 min, **color** developing with the chromatogenous agent for alkaline phosphatase, and **detecting** by fluorimetry. The test kit consists of a modified Eppendorf tube, lysis buffer (such as NP-40 or Triton X-100 containing 10 mM Tris-HCl (pH 8.8) or Triton X-100, Tween-20, and proteinase K containing 100 mM Tris-HCl (pH 8.8)), amplification reagents (including biotinylated antibody, avidin or streptavidin, biotinylated primers, plasmid DNA, MgCl2, dNTP, DNA polymerase Taq, etc), and **detection** reagents [including denaturing liquor, hybridizing buffer, **enzyme**- or **fluorescence** -labeled antibody, chromatogenous liquid or **light-emitting** reagent (such as 4-nitrophenyl phosphate disodium salt, 5- bromo-4-chloro-3-indolyl phosphate disodium salt-NBT, o-phenylenediamine, 3,3',5,5'-tetramethylbenzidine, fluorescein isothiocyanate, rhodamine B, etc)]. The **detection** method and test kit may be used to **detect** the very micro pathogen and marker protein.

L8 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:831890 CAPLUS
DOCUMENT NUMBER: 137:322246
TITLE: Bio-device and **quantitative measurement** apparatus and method using the same
INVENTOR(S): Kitawaki, Fumihisa; Shigeto, Nobuyuki; Kawamura, Tatsuro; Nadaoka, Masataka; Tanaka, Hirotaka; Takahashi, Mie
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1253427	A2	20021030	EP 2002-9271	20020426
EP 1253427	A3	20030521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CA 2383392	AA	20021027	CA 2002-2383392	20020425
JP 2003014764	A2	20030115	JP 2002-125052	20020425
US 2002177234	A1	20021128	US 2002-133698	20020426
CN 1384358	A	20021211	CN 2002-118669	20020427
PRIORITY APPLN. INFO.:			JP 2001-131410 A	20010427

AB A bio-device includes a sample application section; an indicator substance holding section; and a **determination** section. The sample application section, the indicator substance holding section, and the **determination** section are located so that a liquid sample applied to the sample application section is transferred to the **determination** section via the indicator substance holding section. At least the indicator substance holding section and the **determination** section are included in a single member. The indicator substance holding section has a first substance group containing a substance specifically reacting with a target substance, wherein the first substance group is held so as to be capable of being eluted by the applied liquid sample. After the first substance group is eluted by the liquid sample applied to the sample application section, the first substance group flows as a mass having a leading end and a trailing end during flowing.

L8 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:570665 CAPLUS
DOCUMENT NUMBER: 137:121946
TITLE: Difference **detection** methods using matched multiple dyes
INVENTOR(S): Minden, Jonathan; Waggoner, Alan; Fowler, Susan Janet
PATENT ASSIGNEE(S): Carnegie Mellon University, USA
SOURCE: U.S., 27 pp., Cont.-in-part of U.S. 6,127,134.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6426190	B1	20020730	US 1999-370743	19990809
US 6127134	A	20001003	US 1995-425480	19950420
CA 2218528	AA	19961024	CA 1996-2218528	19960419
CA 2218528	C	20030624		
EP 1494026	A1	20050105	EP 2004-23563	19960419
EP 1494026	B1	20050831		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
AT 303593	E	20050915	AT 2004-23563	19960419
ES 2240993	T3	20051016	ES 1996-912911	19960419
US 6043025	A	20000328	US 1997-949115	19971010
AU 9959500	A1	20000203	AU 1999-59500	19991117
AU 740831	B2	20011115		
CA 2381506	AA	20010215	CA 2000-2381506	20000809
CA 2381506	C	20040727		
WO 2001011373	A2	20010215	WO 2000-US21766	20000809
WO 2001011373	A3	20010712		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1200833	A1	20020502	EP 2000-952693	20000809
EP 1200833	B1	20041124		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL					
JP 2003506718	T2	20030218	JP 2001-515977		20000809
AU 778065	B2	20041111	AU 2000-65345		20000809
AT 283486	E	20041215	AT 2000-952693		20000809
ES 2233421	T3	20050616	ES 2000-952693		20000809
US 2002177122	A1	20021128	US 2002-137180		20020501
US 2004161780	A1	20040819	US 2003-713861		20031114
PRIORITY APPLN. INFO.:			US 1995-425480	A2	19950420
			EP 1996-912911	A3	19960419
			US 1999-370743	A	19990809
			WO 2000-US21766	W	20000809
			US 2002-137180	A3	20020501

OTHER SOURCE(S): MARPAT 137:121946

AB A process and a kit are provided for **detecting** differences in two or more samples of protein, including proteins bearing post-translational modifications and peptides. Proteins are prepared, for example, from each of a different group of cell samples or body fluid samples to be compared. Each protein extract is labeled with a different one of a luminescent dye from a matched set of dyes. The matched dyes have generally the same ionic and pH characteristics but **emit light** at different wavelengths to exhibit a different **color** upon luminescence **detection**. The labeled protein exts. are mixed together and separated together by electrophoresis or a chromatog. method. The separation is observed to **detect** proteins unique to one sample or present in a greater ratio in one sample than in the other. Those unique or excess proteins will fluoresce the **color** of one of the dyes used. Proteins common to each sample migrate together and fluoresce the same.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:587523 CAPLUS

DOCUMENT NUMBER: 135:177522

TITLE: An integrated **fluorescence detection** system in poly(dimethylsiloxane) for microfluidic applications

AUTHOR(S): Chabinyc, Michael L.; Chiu, Daniel T.; McDonald, J. Cooper; Stroock, Abraham D.; Christian, James F.; Karger, Arieh M.; Whitesides, George M.

CORPORATE SOURCE: Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA

SOURCE: Analytical Chemistry (2001), 73(18), 4491-4498 CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This paper describes a prototype of an integrated **fluorescence detection** system that uses a microavalanche photodiode (μAPD) as the photodetector for microfluidic devices fabricated in poly(dimethylsiloxane) (PDMS). The prototype device consisted of a

reusable **detection** system and a disposable microfluidic system that was fabricated using rapid prototyping. The first step of the procedure was the fabrication of microfluidic channels in PDMS and the encapsulation of a multimode optical fiber (100-μm core diameter) in the PDMS; the tip of the fiber was placed next to the side wall of one of the channels. The optical fiber was used to couple light into the microchannel for the excitation of **fluorescent analytes**. The photodetector, a prototype solid-state μAPD array, was embedded in a thick slab (1 cm) of PDMS. A thin (80 μm) **colored** polycarbonate filter was placed on the top of the embedded μAPD to absorb scattered excitation light before it reached the **detector**. The μAPD was placed below the microchannel and orthogonal to the axis of the optical fiber. The close proximity (.apprx.200 μm) of the μAPD to the microchannel made it unnecessary to incorporate transfer optics; the pixel size of the μAPD (30 μm) matched the dimensions of the channels (50 μm). A blue **light-emitting** diode was used for **fluorescence** excitation. The μAPD was operated in Geiger mode to **detect** the **fluorescence**. The **detection** limit of the prototype (.apprx.25 nM) was **determined** by finding the min. **detectable** concentration of a solution of fluorescein. The device was used to **detect** the separation of a mixture of proteins and small mols. by capillary electrophoresis; the separation illustrated the suitability of this integrated **fluorescence detection** system for bioanal. applications.

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:115404 CAPLUS
DOCUMENT NUMBER: 134:159870
TITLE: Protein difference **detection** methods using matched multiple dyes
INVENTOR(S): Minden, Jonathan; Waggoner, Alan; Fowler, Susan Janet
PATENT ASSIGNEE(S): Carnegie Mellon University, USA; Amersham Pharmacia Biotech UK Limited
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001011373	A2	20010215	WO 2000-US21766	20000809
WO 2001011373	A3	20010712		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6426190	B1	20020730	US 1999-370743	19990809
CA 2381506	AA	20010215	CA 2000-2381506	20000809
CA 2381506	C	20040727		
EP 1200833	A1	20020502	EP 2000-952693	20000809
EP 1200833	B1	20041124		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003506718	T2	20030218	JP 2001-515977	20000809
AU 778065	B2	20041111	AU 2000-65345	20000809
AT 283486	E	20041215	AT 2000-952693	20000809
PRIORITY APPLN. INFO.:			US 1999-370743 A	19990809
			US 1995-425480 A2	19950420
			WO 2000-US21766 W	20000809

OTHER SOURCE(S): MARPAT 134:159870

AB A process and a kit are provided for **detecting** differences in two or more samples of protein, including proteins bearing post-translational modifications and peptides. Proteins are prepared, for example, from each of a different group of cell samples or body fluid samples to be compared. Each protein extract is labeled with a different one of a luminescent dye from a matched set of dyes. The matched dyes have generally the same ionic and pH characteristics but **emit light** at different wavelengths to exhibit a different **color** upon luminescence **detection**. The labeled protein exts. are mixed together and separated together by electrophoresis or a chromatog. method. The separation is observed to **detect** proteins unique to one sample or present in a greater ratio in one sample than in the other. Those unique or excess proteins will fluoresce the **color** of one of the dyes used. Proteins common to each sample migrate together and fluoresce the same.

L8 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:25420 CAPLUS
DOCUMENT NUMBER: 134:233977
TITLE: Upconverting Phosphor Reporters in Immunochromatographic **Assays**
AUTHOR(S): Hampl, Johannes; Hall, Michael; Mufti, Naheed A.; Yao, Yung-mae M.; MacQueen, D. Brent; Wright, William H.; Cooper, David E.
CORPORATE SOURCE: SRI International, Menlo Park, CA, 94025, USA
SOURCE: Analytical Biochemistry (2001), 288(2), 176-187
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Immunochromatog. **assays** have become popular diagnostic tools in a variety of settings because they are sensitive, fast, and easy to use. Here, we describe the use of a novel reporter, upconverting phosphors (UCP), in this **assay** format. UCP are submicron-sized, inorg. crystals that are excited with IR **light** and that **emit** photons in the visible range depending on the ion composition of the crystal. Using human chorionic gonadotropin (hCG) as a model **analyte** to describe the properties of phosphors in immunochromatog. **assays**, a **detection** limit of 10 pg hCG in a 100-μl sample has been achieved on a regular basis, with occasional **detection** of 1

pg hCG. This represents at least a 10-fold improvement over conventional reporter systems such as colloidal gold or **colored** latex beads. **Quantitation** of **analytes** is possible over at least 3 orders of magnitude. Furthermore, an example is given of how UCP can be used for **analyte** multiplexing using a two-plexed wick for the **detection** of mouse IgG and ovalbumin. Thus, UCP lateral flow **assays** can be used for applications that are currently limited by **assay** sensitivity, and they can increase the probability of a diagnosis by verifying the presence of several **analytes** in the same sample. (c) 2001 Academic Press.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:850700 CAPLUS
DOCUMENT NUMBER: 134:75371
TITLE: **Colorimetric determination** of formaldehyde in air using a hanging drop of chromotropic acid
AUTHOR(S): Pretto, Angelica; Milani, Marcio R.; Cardoso, Arnaldo A.
CORPORATE SOURCE: Dep. Quim. Analitica, Instituto de Quimica-UNESP, Araraquara, 14800-900, Brazil
SOURCE: Journal of Environmental Monitoring (2000), 2(6), 566-570
CODEN: JEMOFW; ISSN: 1464-0325
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple and sensitive method to **determine** ppb of atmospheric formaldehyde in situ, using chromotropic acid, is described. A **colorimetric** sensor, coupled to a droplet of 15.5 mL chromotropic acid, was constructed and used to sample and **quantify** formaldehyde. The sensor was set up with two optical fibers, a **light emitting** diode (LED) and two photodiodes. The reference and transmitted light were **measured** by a photodetection arrangement that converts the signals into units of absorbance. Air was sampled around the chromotropic acid droplet. A purple product was formed and **measured** after the sampling terminated (typically 7 min). The response is proportional to the sampling period, **analyte concentration** and sample flow rate. The **detection** limit is .apprx.2 ppb and can be improved by using longer sampling times and/or a sampling flow rate higher than that used 200 mL min-1. The present technique affords a simple, inexpensive near real-time **measurement** with very little reagent consumption. The method is selective and highly sensitive. This sensor could be used either for outdoor or indoor atms.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:609014 CAPLUS
DOCUMENT NUMBER: 133:174308
TITLE: Particulate solid phase immobilized protein **quantitation**

INVENTOR(S): Davies, Travis
PATENT ASSIGNEE(S): Luminex Corporation, USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000050903	A1	20000831	WO 2000-US4600	20000224
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6696304	B1	20040224	US 2000-512013	20000224
PRIORITY APPLN. INFO.:			US 1999-121497P	P 19990224

AB A process, a test kit, calibration stds., and the method of preparing such stds. as useful for the qual. and/or **quant.** **determination** of total solid phase- or microparticle-immobilized, amine-containing reactants such as proteins is provided. The operating principle of the invention is distinct from a classical immunoassay based on antibody-antigen immune interaction or from standard **colorimetric** proteins **assays** of soluble proteins and allows the **detection** of as low as attogram (10-18 gm) levels of total **analyte** per microparticle.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:688790 CAPLUS
DOCUMENT NUMBER: 132:175169
TITLE: **Fluorescence** polarization: an analytical tool for immunoassay and drug discovery
AUTHOR(S): Nasir, Mohammad Sarwar; Jolley, Michael E.
CORPORATE SOURCE: Diachemix Corporation, Grayslake, IL, 60030, USA
SOURCE: Combinatorial Chemistry and High Throughput Screening (1999), 2(4), 177-190
CODEN: CCHSFU; ISSN: 1386-2073
PUBLISHER: Bentham Science Publishers
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 98 refs. **Fluorescence** polarization (FP) is an intrinsically powerful technique for the rapid and homogeneous anal. of mol. interactions in biol./chemical systems. The technique has been successfully used to diagnose various viral and infectious diseases in humans and animals, to monitor therapeutic drug levels and substances of abuse in body fluids and to **determine** food born pathogens, grain mycotoxins and pesticides. It has also been used in monitoring **enzyme** catalyzed hydrolysis, protein-protein interactions, DNA diagnostics and high throughput **screening** during the course

of drug discovery. Work by various groups, including our own, have demonstrated that the technique can replace a substantial number of solid phase **assays**. FP, defined by the equation P = [IV - IH] / [IV + IH] (where V and H are the vertical and horizontal components of the intensity I of **emitted light** resp. when exited by vertically plane polarized light), is independent of the intensity of the light and the concentration of the fluorophore. Hence it is functional in **colored** and cloudy solns. The FP of a fluorophore is proportional to its rotational relaxation time, which in turn depends upon its mol. volume (or mol. weight) at constant temperature and solution viscosity. When a fluorophore-labeled ligand binds to a larger mol., equilibrium is established rapidly and the FP increases. This property has been successfully exploited in many fields as described in this review.

REFERENCE COUNT: 98 THERE ARE 98 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:202927 CAPLUS
DOCUMENT NUMBER: 128:190039
TITLE: Enhanced **detection** sensitivity of " **fluorescence** reduction" by shifting the **analyte** absorbance spectrum and use of a **fluorescent** paper with higher signal/noise ratio
AUTHOR(S): Yarmola, Elena; Chen, Nong; Yi, David; Chrambach, Andreas
CORPORATE SOURCE: Laboratory Biopolymer Physics, Engelhardt Institute Molecular Biology, Moscow, Russia
SOURCE: Electrophoresis (1998), 19(2), 206-211
CODEN: ELCTDN; ISSN: 0173-0835
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nonfluorescing protein bands can be **detected** by the **fluorescence** optics of the com. gel electrophoresis apparatus with automated scanning of the migration path (HPGE-1000, LabIntelligence, Belmont CA), taking advantage of the decrease of emission from a **fluorescent** paper placed below the gel by the absorbance of proteins ("**fluorescence** reduction"). That decrease of **fluorescence** gives rise to an inverted protein peak. Nonfluorescent **colorless** proteins appear to reduce the intensity of **light emitted** from the **fluorescent** paper due to absorbance of incident and **emitted light**. When the absorbance spectrum only slightly overlaps with the excitation and emission spectra of the **fluorescent** paper, that reduction is weak, and **detection** sensitivity in that application is consequently only 1/30 of that of **fluorescent** proteins. By contrast, when the protein is **colored** so that its absorbance spectrum overlaps widely with the excitation and emission spectra of the **fluorescent** paper, the sensitivity of "**fluorescence** reduction" equals 1/4-1/5 of that obtained for **fluorescent** proteins. Bands **detected** by "**fluorescence** reduction" provide a **quant. measure** of protein load and mobility. The area of the inverted bands is proportional to protein loads ≤16 μg/lane of the gel tray. A theory of " **fluorescence**

reduction" is presented which accounts for the existence of a linear relationship between band area and load.

L8 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:55317 CAPLUS
DOCUMENT NUMBER: 126:181860
TITLE: The LightCycler: a microvolume multisample fluorimeter with rapid temperature control
AUTHOR(S): Wittwer, C. T.; Ririe, K. M.; Andrew, R. V.; David, D. A.; Gundry, R. A.; Balis, U. J.
CORPORATE SOURCE: Idaho Technology, Idaho Falls, ID, USA
SOURCE: BioTechniques (1997), 22(1), 176-181
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Exptl. and com. microvolume fluorimeters with rapid temperature control are described. **Fluorescence** optics adopted from flow cytometry were used to interrogate 1-10-μL samples in glass capillaries. Homogeneous temperature control and rapid change of sample temps. (10°C/s) were obtained by a circulating air vortex. A prototype 2-**color**, 32-sample version was constructed with a xenon arc for excitation, sep. excitation and emission paths, and photomultiplier tubes for **detection**. The com. LightCyclerTM, a 3-**color**, 24-sample instrument, uses a blue **light-emitting** diode for excitation, paraxial epi-illumination through the capillary tip and photodiodes for **detection**. Applications include **analyte quantification** and nucleic acid melting curves with **fluorescent** dyes, **enzyme assays** with **fluorescent** substrates and techniques that use **fluorescence** resonance energy transfer. Microvolume capability allows anal. of very small or expensive samples. As an example of one application, rapid cycle DNA amplification was continuously monitored by three different **fluorescence** techniques, which included using the double-stranded DNA dye SYBR® Green I, a dual-labeled 5'-exonuclease hydrolysis probe, and adjacent fluorescein and Cy5TM-labeled hybridization probes. Complete amplification and anal. requires only 10-15 min.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:259778 CAPLUS
DOCUMENT NUMBER: 124:292900
TITLE: Analytical Chemistry in a Drop. Solvent Extraction in a Microdrop
AUTHOR(S): Liu, Hanghui; Dasgupta, Purnendu K.
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Texas Tech University, Lubbock, TX, 79409-1061, USA
SOURCE: Analytical Chemistry (1996), 68(11), 1817-21
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An organic microdrop (.apprx.1.3 μL) is suspended inside a flowing aqueous drop from which the analyte is extracted The drop-in-drop system is achieved by a multi-tube assembly. The aqueous phase is continuously

delivered to the outer drop and is aspirated away from the bottom meniscus of the drop. After the sampling/extraction period, a wash solution replaces the sample/reagent in the aqueous layer, resulting in a clear outer aqueous drop housing a **colored** organic drop containing the extracted material. This also results in an automatic backwash. The **color** intensity of the organic drop, related to the **analyte concentration**, is monitored by a **light-emitting** diode based absorbance **detector**. After the anal. cycle, the organic drop is removed and replaced by a new one. The performance of the system is illustrated with the **determination** of sodium dodecyl sulfate (a methylene blue active substance) extracted as an ion pair into chloroform. This unique micro-extraction system is simple and flexible, permits automated back-washing, consumes only microquantities of organic solvents, and is capable of being coupled with other anal. systems. This concept should prove valuable for preconcn. and matrix isolation in a microscale.

L8 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:654812 CAPLUS
DOCUMENT NUMBER: 123:131558
TITLE: Analytical Chemistry in a Liquid Film/Droplet
AUTHOR(S): Cardoso, Arnaldo A.; Dasgupta, Purnendu K.
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Texas Tech University, Lubbock, TX, 79409-1061, USA
SOURCE: Analytical Chemistry (1995), 67(15), 2562-6
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The **measurement** of nitrogen dioxide at the parts-per-billion level is described. The exptl. arrangement consists of two optical fibers placed on opposite sides of and in contact with a liquid film (14-57 μL in volume) supported on a U-shaped wire guide and two tubular conduits (one of which constitutes the means for the delivery of the liquid). Light from a green (555 nm) **light-emitting** diode enters the liquid film, composed of Griess-Saltzman reagent. The transmitted light is **measured** by a referenced photodetection arrangement. Sample gas flows past the droplet at a low flow rate (typically 0.10-0.25 L/min). The response is proportional to the sampling period and the **analyte concentration** The limit of **detection** for this nonoptimized arrangement is <10 ppb by volume for a 5 min sample. Some unusual characteristics are observed The initial absorbance, when most of the analyte/reaction product is still near the surface, is higher than that when the content of the droplet is fully mixed. The signal depends on the sample flow rate in a nonmonotonic fashion, 1st increasing and then decreasing with increasing sampling rate; the specific chemical involved in the collection and **determination** of NO2 may be responsible.

L8 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:94343 CAPLUS
DOCUMENT NUMBER: 114:94343
TITLE: Permeation absorption sampler with multiple **detection** for photometry, amperometry, or chemiluminescence spectrochemical analysis
PATENT ASSIGNEE(S): United States Dept. of Energy, USA; University of Chicago
SOURCE: U. S. Pat. Appl., 31 pp. Avail. NTIS Order No.

PAT-APPL.-7-330 654.
CODEN: XAXXAV
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 330654	A0	19901215	US 1989-330654	19890330
US 5328851	A	19940712	US 1992-993080	19921218
US 6762060	B1	20040713	US 1995-377966	19950125
US 6642057	B1	20031104	US 2000-611744	20000707
US 6565811	B1	20030520	US 2000-613246	20000710

PRIORITY APPLN. INFO.:

US 1989-330654	A2	19890330
US 1989-330655	A2	19890330
US 1990-499602	A3	19900326
US 1992-931572	B1	19920810
US 1992-993080	A2	19921218
US 1994-255712	B2	19940607
US 1995-377966	B2	19950125
US 1997-851428	A2	19970505

AB A system for **detecting analytes** in air or aqueous systems includes a permeation absorption preconcentrator sampler for **analytes** and **analyte detectors**. The preconcentrator has an inner fluid-permeable container into which a charge of **analyte**-sorbing liquid is intermittently injected, and a fluid-impermeable outer container. The sample is passed through the outer container and around the inner container for trapping and preconcg. the **analyte** in the sorbing liquid The **analyte** can be **detected** photometrically by injecting with the sorbing material a reagent which reacts with the **analyte** to produce a characteristic **color** or **fluorescence** which is **detected** by illuminating the contents of the inner container with a light source and **measuring** the adsorbed or **emitted light**, or by producing a characteristic chemiluminescence which can be **detected** by a suitable light sensor. The **analyte** can also be **detected** amperometrically. In this way applicability is increased by coupling with other types of anal. techniques. The sampler may be portable.

L8 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:432382 CAPLUS
DOCUMENT NUMBER: 91:32382
TITLE: Apparatus for continuous photometric analysis
INVENTOR(S): Dreizner, Harry; Knorr, Gert
PATENT ASSIGNEE(S): VEB Leuna-Werke "Walter Ulbricht", Ger. Dem. Rep.
SOURCE: Ger. (East), 8 pp.
CODEN: GEXXA8
DOCUMENT TYPE: Patent

LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
DD 133713	Z	19790117	DD 1977-200985		19770913
PRIORITY APPLN. INFO.:			DD 1977-200985	A	19770913

AB An apparatus for continuous spectrochem. anal. takes care of the problems caused by contamination of the sample cell window, the **turbidity** of the **measuring** medium, and voltage fluctuation of the light source. The apparatus consists of a direct light source, a single horizontally-arranged flow-through sample cell, 2 optical filters placed one on top of the other immediately behind the sample cell, and 2 photoelements placed one on top of the other behind the photoelements. The separation line of the 2 optical filters coincides with that of the 2 photoelements. One of the optical filters has a spectral range in which the analyte absorbs and the other filter has a spectral range in which the analyte does not absorb. The **light** beams **emitted** from the 2 optical filters are **measured** by the 2 photoelements and their quotient is related to the **analyte concentration**

L8 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1952:57716 CAPLUS
DOCUMENT NUMBER: 46:57716
ORIGINAL REFERENCE NO.: 46:9672f-i,9673a
TITLE: Light production by green plants
AUTHOR(S): Strehler, Bernard L.; Arnold, Wm.
CORPORATE SOURCE: Oak Ridge Natl. Lab., Oak Ridge Tenn.
SOURCE: Journal of General Physiology (1951), 34, 809-20
CODEN: JGPLAD; ISSN: 0022-1295
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Green plants **emit light** of approx. the same **color** as their **fluorescent** light for several min. following illumination. This light is about 10-3 the intensity of the **fluorescent** light about 0.1 sec. after illumination below saturation or 10-6 of the intensity of the absorbed light. The decay curve followed bimol. kinetics at 6.5° and reaction order 1.6 at 28°. This light satturates as does photosynthesis (I) at higher light intensities and in about the same intensity range as does I. An action spectrum for **light emitted** as a function of the wave length of exciting ray was **determined**, and it closely paralleled the photosynthetic-action spectrum. The intensity of light emission was found to be optimal at about 37° with an activation energy of approx. 19,500 cal. Two-temperature studies indicated that the energy may be trapped in the cold, but that temps. characteristic for **enzyme** reactions are necessary for light production. Illumination after varying dark periods showed initial peaks of varying height depending on the preceding dark period. CO2 at 5% concentration reversibly depressed the amount of **light emitted** by about 30% with about 3 min. being required for this effect to reach completion at room temperature Various inhibitors of I were tested for their effect on luminescence and were all inhibitory at appropriate concns. Irradiation with ultraviolet light inhibited light production at about the same rate as it inhibits I. The results suggest that early and perhaps later chemical reactions

in I may be partially reversible. Plants tested include 3 microorganisms, Chlorella, Scenedesmus and Stichococcus; and two higher plants, Phytolacca americana and Trifolium repens.

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FILE 'JAPIO' ENTERED AT 15:49:01 ON 12 DEC 2005
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L9 67 S L4
L10 12 S L7
L11 10 S L9 AND LIGHT(3A)ABSORB?
L12 2 S L9 AND (PRECIPITAT? OR PRECIP##)
L13 21 S L10 OR L11 OR L12
L14 18 DUP REM L13 (3 DUPLICATES REMOVED)

L14 ANSWER 1 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-722573 [74] WPIDS
DOC. NO. NON-CPI: N2005-594092
DOC. NO. CPI: C2005-219903
TITLE: Device for **detecting** and **measuring** the **concentration** of multiple **analytes** present in a single liquid sample, comprises a matrix material that is supported on a rigid to semi-rigid support material.
DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): GUPTA, S K
PATENT ASSIGNEE(S): (GUPT-I) GUPTA S K
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2005214161	A1	20050929	(200574)*		13

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005214161	A1	US 2004-806461	20040323

PRIORITY APPLN. INFO: US 2004-806461 20040323
AN 2005-722573 [74] WPIDS
AB US2005214161 A UPAB: 20051117
NOVELTY - A device, for **detecting** and **measuring** the **concentration** of multiple **analytes** present in a single liquid sample, comprises a matrix material that is supported on a rigid to semi-rigid support material.
DETAILED DESCRIPTION - A device, for **detecting** and **measuring** the **concentration** of multiple **analytes** present in a single liquid sample, comprises a matrix material (comprising a central sample receiving portion, where the portion is connected to at least two outwardly extending arms along which the liquid sample flows outwardly from the central sample receiving portion, each separate arm is prepared by impregnation with reagents needed to conduct a test for the **detection** and **measurement** of a predetermined analyte that is present in the liquid sample, and the reagents react with the analyte to produce a **measurable** signal that is proportional to the **concentration** of the **analyte** in the sample) that is supported on a rigid to semi-rigid support material.
USE - The device is useful for **detecting** and **measuring** the **concentration** of multiple **analytes** present in a single liquid sample (whole blood, plasma, serum, saliva, urine, extract (food, drug, soil or plant), environmental water (tap water, swimming pool water or fish tank water)) (claimed). The device is also useful for conducting **assays**, where the red cells in whole blood are lysed and their contents are analyzed for various substances. The device is useful in facilitating on-site diagnosis of organ-specific disorders of the heart, liver, kidney and pancreas in mammalian patients.
ADVANTAGE - The device is convenient and portable. The sample volume requirement of the device is in the order of 10-25 mu l and does not require multiple layers or pressure application to achieve uniform distribution of the sample.
Dwg.0/11

L14 ANSWER 2 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-180809 [19] WPIDS
DOC. NO. NON-CPI: N2005-150767
DOC. NO. CPI: C2005-057874
TITLE: **Determining** the **concentration** of an **analyte** in a sample for biomedical applications, comprises **determining** a decrease in **fluorescence light emitted** from a **light emitting** group as a **measure** of **concentration** of the **analyte**.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): BROCIA, R W
PATENT ASSIGNEE(S): (BROC-I) BROCIA R W
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2005042707	A1	20050224	(200519)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005042707	A1 CIP of	US 1995-496806	19950629
		US 2004-775953	20040209

PRIORITY APPLN. INFO: US 2004-775953 20040209; US 1995-496806 19950629

AN 2005-180809 [19] WPIDS

AB US2005042707 A UPAB: 20050321

NOVELTY - **Determining** the **concentration** of **analyte** in a sample comprises **determining** decreases in **fluorescence light emitted** from a **light emitting** group of a reaction mixture as a **measure** of **concentration** of **analyte** in the sample.

USE - To **determine** the **concentration** of an **analyte** e.g. an **enzyme** in a sample by a calorimetric or **turbidimetric assay** (claimed), particularly in biomedical applications such as blood tests, and urinalysis.

ADVANTAGE - The method results in enhanced sensitivity of the **assay**, thus permitting smaller **quantities** of materials to be used. For example, the volume of blood needed to perform blood tests is diminished. The method requires 2 - 15 micro l of blood sample compared to prior art method, which utilizes 5 - 15 ml of blood.

Dwg.0/0

L14 ANSWER 3 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-737347 [72] WPIDS

DOC. NO. NON-CPI: N2004-583519

DOC. NO. CPI: C2004-259276

TITLE: **Detection** device for monitoring **concentration** of **analyte** (e.g. glucose) in body fluid (e.g. whole blood), comprises **detector** including sensor, e.g. complementary metal-oxide semiconductor.

DERWENT CLASS: A89 A96 B04 S03 S05 T01 U13

INVENTOR(S): DESAI, N V; HO, W; MCBRIDE, S E; VARMA, B; ZANZUCCHI, P J; TSEKOUN, A G

PATENT ASSIGNEE(S): (DESA-I) DESAI N V; (HOWW-I) HO W; (MCBR-I) MCBRIDE S E; (VARM-I) VARMA B; (ZANZ-I) ZANZUCCHI P J; (TSEK-I) TSEKOUN A G; (ROSE-N) ROSEDALE MEDICAL INC

COUNTRY COUNT: 108

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004085995	A2	20041007	(200472)*	EN	60

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

US 2004191119 A1 20040930 (200472)

US 2005202567 A1 20050915 (200561)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004085995	A2	WO 2004-US8798	20040324
US 2004191119	A1	US 2003-394230	20030324
US 2005202567	A1 Cont of	US 2003-394230	20030324
		US 2005-125107	20050510

PRIORITY APPLN. INFO: US 2003-457996P 20030328; US 2003-394230 20030324; US 2003-456961P 20030325; US 2005-125107 20050510

AN 2004-737347 [72] WPIDS

AB WO2004085995 A UPAB: 20041109

NOVELTY - An analyte **detection** device comprises a **detector** (24) including a sensor. The sensor is complementary metal-oxide semiconductor (CMOS) sensor, charge-coupled device (CCD) sensor, or photodiode.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) an **assay** pad comprising a first component designed to separate red blood cells from plasma and containing diffuse reflective material (e.g. zirconium oxide), a second component containing chemical reagent, and a third component containing polyamide-containing mesh;

(2) performing an **assay** to **determine** the **concentration** of **analyte** in a sample of bodily fluid, by providing a sample collection chamber having a first volume, introducing a sample of bodily fluid a having second volume into the chamber, vertically conveying the sample from the chamber onto an **assay** pad, reacting the analyte in the sample with a chemical reagent in the **assay** pad to produce a **color** change, and **detecting** the **color** change with each individual sensor in an array which is incident upon the area of **color** change in the **assay** pad;

(3) **determining** an estimated volume of bodily fluid sample being subjected to an **assay**, by performing an **assay** to **determine** the **concentration** of **analyte** in a sample of bodily fluid, and calculating the estimated volume of sample in the collection chamber based on the number of sensors in the array which **detect** the change in **color**; and

(4) an analyte monitor comprising a processor and a **detector**, and designed to **determine** the **concentration** of **analyte** present in body fluid from data generated by the **detector** by manipulating data with and algorithm based on peak area, peak value, and/or peak average.

USE - For monitoring **concentration** of **analyte**, e.g. glucose, in bodily fluid, e.g. whole blood (claimed).

ADVANTAGE - The inventive **detection** device enables accurate, efficient, and economic **determination** of the presence and/or **concentration** of **analyte** in body fluid.

DESCRIPTION OF DRAWING(S) - The figure is a schematic view of an analyte **detection** arrangement.

Conduit 12

Sample collection chamber 14
Lower and upper members 16, 18
Assay pad 20
Light source 22
Optical **detector** 24
Dwg.1/30

L14 ANSWER 4 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-315523 [29] WPIDS
CROSS REFERENCE: 2004-083024 [08]; 2004-315522 [29]; 2004-468356 [44]
DOC. NO. NON-CPI: N2004-251430
DOC. NO. CPI: C2004-119554
TITLE: New apparatus comprising light scanning means, a rotary stage, an optical system and a light **detector**, useful in optical projection tomography and in performing analyses procedures.
DERWENT CLASS: B04 D16 P81 S03
INVENTOR(S): SHARPE, J A
PATENT ASSIGNEE(S): (MEDI-N) MEDICAL RES COUNCIL
COUNTRY COUNT: 106
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004020997	A1	20040311	(200429)*	EN	40
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
AU 2003260751	A1	20040319	(200462)		
EP 1520173	A1	20050406	(200523)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004020997	A1	WO 2003-GB3746	20030829
AU 2003260751	A1	AU 2003-260751	20030829
EP 1520173	A1	EP 2003-791047	20030829
		WO 2003-GB3746	20030829

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2003260751	A1	Based on	WO 2004020997
EP 1520173	A1	Based on	WO 2004020997

PRIORITY APPLN. INFO: GB 2002-27649 20021127; GB 2002-20156 20020830
AN 2004-315523 [29] WPIDS
CR 2004-083024 [08]; 2004-315522 [29]; 2004-468356 [44]
AB WO2004020997 A UPAB: 20050411
NOVELTY - Apparatus for obtaining an image of a specimen by optical

projection tomography, is new.

DETAILED DESCRIPTION - Apparatus for obtaining an image of a specimen by optical projection tomography, comprising light scanning means, a rotary stage for rotating the specimen to be imaged, an optical system and a light **detector** (light from the scanning means scans the specimen and the optical system is operative, throughout the scanning movement of the light, to direct onto the **detector** only light which exits or by-passes the specimen parallel to the beam incident on the specimen).

INDEPENDENT CLAIMS are also included for:

(1) an optical system receiving light from a specimen scanned by a light beam and being operative to direct onto a **detector** only light which exits or by-passes the specimen parallel to the beam incident on the specimen;

(2) a method of obtaining an image of a specimen in optical projection tomography comprises moving a light beam across the specimen with a scanning motion and passing the light emanating from the specimen onto a **detector** which, throughout the scanning movement of the light, **detects** light which exits or by-passes the specimen parallel to the beam incident on the specimen; and

(3) a method of performing analyses or procedures by using the method and apparatus described above.

USE - The apparatus and methods are useful in analyzing:

(1) structure, function and shapes of, distribution of cell types, gene activity (distribution of RNA transcripts and protein), transgenic gene activity, cell activity (cell cycle status including arrest, cell death, cell proliferation or cell migration) or physiological states within biological tissues;

(2) results of immunohistochemistry and of in-situ hybridization staining techniques;

(3) distribution of molecular markers within biological tissues, including any **colored** or **light-absorbing** substances (e.g. 5,5'-dibromo-4,4'-dichloro-indigo (or other halogenated indigo compounds), formazan or other **colored precipitates** generated through the catalytic activity of **enzymes**), b-galactosidase, alkaline phosphatase or other **colored precipitates** formed upon catalytic conversion of staining substrates (e.g. Fast Red, Vector Red and any **light-emitting** substances, any **fluorescent** substances like Alexa dyes, FITC, rhodamine, any luminescent substances like green **fluorescent** protein (GFP) or similar proteins and any phosphorescent substances;

(4) tissues from all plant species;

(5) tissue for agricultural research including basic research into all aspects of plant biology (genetics, development, physiology, pathology etc.);

(6) tissues, which have been genetically altered;

(7) tissues from all animal species including invertebrates, nematode worms, vertebrates, all types of fish (teleosts, such as zebrafish, and chondrycthes including sharks), amphibians (genus Xenopus and axolotls), reptiles, birds (chickens and quails) or all mammals (rodents, dogs, cats and all primates and human);

(8) embryonic tissues for research into any stem cell population, developmental biology, causes of abnormal embryo development, including human syndromes and autopsies of human terminated pregnancies (both spontaneous and induced terminations);

(9) tissues for genomics research including analysis of transgenic, knock-in, knock-down or knock-out organisms, discovery of

the expression (or activity) of genes including their spatial distribution, and their levels of expression, analysis of discovery of abnormalities in the structure or morphology of tissues, as a result of interference due to willful experimentation (such as genetic or physical modifications including a chemical or biochemical genomics approach), and/or spontaneous abnormalities (such as naturally-occurring mutations);

(10) tissue for neurobiology research including analysis of the morphology of nerves, pathways and connectivity of nerves and parts of or whole animal brains;

(11) tissue for pharmaceutical research including analysis of pharmaceutical substances (such as drugs, molecules, proteins, antibodies), including their spatial distribution within the tissue and their concentrations and abnormalities in the structure or morphology of tissues;

(12) tissues for medical research including research into the genetics, development, physiology, structure and function of animal tissues, analysis of diseased tissue to further our understanding of all types of diseases, e.g. congenital diseases and acquired diseases (infectious, neoplastic, vascular, inflammatory, traumatic, metabolic, endocrine, degenerative, drug-related, iatrogenic or idiopathic diseases); and

(13) tissues for medical diagnosis, treatment or monitoring including diagnosis of cancer patients including searching for cancerous cells and tissues and for abnormal structure or morphology of tissues within biopsies, analysis of all biopsies, e.g. lymph nodes, polyps, liver, kidney, prostate or muscle biopsies and brain tissue, analysis of tissue removed in the process of extracting a tumor from a patient, **determining** whether all the tumor has been removed and **determining** the type of tumor or cancer (claimed).

DESCRIPTION OF DRAWING(S) - The figure is an apparatus for optical projection tomography,

Light source; 1

Scanning means; 2

Image-forming optics; 3

Light **detector**; and 5

Rotary stage. 7

Dwg.1/12

L14 ANSWER 5 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-315522 [29] WPIDS

CROSS REFERENCE: 2004-083024 [08]; 2004-315523 [29]; 2004-468356 [44]

DOC. NO. NON-CPI: N2004-251429

DOC. NO. CPI: C2004-119553

TITLE: New apparatus comprising a light scanning system and a rotary stage, useful in optical projection tomography and in performing analyses procedures.

DERWENT CLASS: B04 D16 P81 S03

INVENTOR(S): SHARPE, J A

PATENT ASSIGNEE(S): (MEDI-N) MEDICAL RES COUNCIL

COUNTRY COUNT: 106

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004020996	A1	20040311	(200429)*	EN	39

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE
DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ
OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA
UG US UZ VC VN YU ZA ZM ZW
AU 2003263290 A1 20040319 (200462)
EP 1532443 A1 20050525 (200535) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU
LV MC MK NL PT RO SE SI SK TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004020996	A1	WO 2003-GB3726	20030829
AU 2003263290	A1	AU 2003-263290	20030829
EP 1532443	A1	EP 2003-791037	20030829
		WO 2003-GB3726	20030829

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003263290	A1 Based on	WO 2004020996
EP 1532443	A1 Based on	WO 2004020996

PRIORITY APPLN. INFO: GB 2002-27649 20021127; GB 2002-20157 20020830

AN 2004-315522 [29] WPIDS

CR 2004-083024 [08]; 2004-315523 [29]; 2004-468356 [44]

AB WO2004020996 A UPAB: 20050603

NOVELTY - An apparatus, for obtaining an image of a specimen by optical projection tomography, comprising light scanning means and a rotary stage for rotating the specimen to indexed positions in each of which the specimen is in use subjected to a scanning movement of incident light by the scanning means, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of obtaining an image of a specimen by optical projection tomography.

USE - The apparatus and methods are useful in analyzing:

(i) structure, function and shapes of, distribution of cell types, gene activity (distribution of RNA transcripts and protein), transgenic gene activity, cell activity (cell cycle status including arrest, cell death, cell proliferation or cell migration) or physiological states within biological tissues;

(ii) results of immunohistochemistry and of in-situ hybridization staining techniques;

(iii) distribution of molecular markers within biological tissues, including any **colored** or **light-absorbing** substances (e.g. 5,5'-dibromo-4,4'-dichloro-indigo (or other halogenated indigo compounds), formazan or other **colored precipitates** generated through the catalytic activity of **enzymes**), b-galactosidase, alkaline phosphatase or other **colored precipitates** formed upon catalytic conversion of staining substrates (e.g. Fast Red, Vector Red and any **light-emitting** substances, any **fluorescent** substances like Alexa dyes, FITC, rhodamine, any luminescent substances like green **fluorescent** protein (GFP) or similar proteins and any phosphorescent substances;

(iv) tissues from all plant species;

(v) tissue for agricultural research including basic research into all aspects of plant biology (genetics, development, physiology, pathology etc.);

(vi) tissues, which have been genetically altered;

(vii) tissues from all animal species including invertebrates, nematode worms, vertebrates, all types of fish (teleosts, such as zebrafish, and chondrycthes including sharks), amphibians (genus Xenopus and axolotls), reptiles, birds (chickens and quails) or all mammals (rodents, dogs, cats and all primates and human);

(viii) embryonic tissues for research into any stem cell population, developmental biology, causes of abnormal embryo development, including human syndromes and autopsies of human terminated pregnancies (both spontaneous and induced terminations);

(ix) tissues for genomics research including analysis of transgenic, knock-in, knock-down or knock-out organisms, discovery of the expression (or activity) of genes including their spatial distribution, and their levels of expression, analysis of discovery of abnormalities in the structure or morphology of tissues, as a result of interference due to willful experimentation (such as genetic or physical modifications including a chemical or biochemical genomics approach), and/or spontaneous abnormalities (such as naturally-occurring mutations);

(x) tissue for neurobiology research including analysis of the morphology of nerves, pathways and connectivity of nerves and parts of or whole animal brains;

(xi) tissue for pharmaceutical research including analysis of pharmaceutical substances (such as drugs, molecules, proteins, antibodies), including their spatial distribution within the tissue and their concentrations and abnormalities in the structure or morphology of tissues;

(xii) tissues for medical research including research into the genetics, development, physiology, structure and function of animal tissues, analysis of diseased tissue to further our understanding of all types of diseases, e.g. congenital diseases and acquired diseases (infectious, neoplastic, vascular, inflammatory, traumatic, metabolic, endocrine, degenerative, drug-related, iatrogenic or idiopathic diseases); and

(xiii) tissues for medical diagnosis, treatment or monitoring including diagnosis of cancer patients including searching for cancerous cells and tissues and for abnormal structure or morphology of tissues within biopsies, analysis of all biopsies, e.g. lymph nodes, polyps, liver, kidney, prostate or muscle biopsies and brain tissue, analysis of tissue removed in the process of extracting a tumor from a patient, **determining** whether all the tumor has been removed and **determining** the type of tumor or cancer (claimed).

DESCRIPTION OF DRAWING(S) - The figure is an apparatus for optical projection tomography

Light source; 1

Scanning means; 2

Image-forming optics; 3

Light **detector**; and 5

Rotary stage. 7

Dwg.1/12

L14 ANSWER 6 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-634396 [61] WPIDS

CROSS REFERENCE: 2004-653018 [63]

DOC. NO. NON-CPI: N2004-501523
DOC. NO. CPI: C2004-227807
TITLE: **Detection** of a source of hydrogen peroxide, involves reacting source of hydrogen peroxide with signaling compound, and **detecting** **detectable** product compound by **measuring** **detectable** property.
DERWENT CLASS: B04 D16 E36 J04 S03
INVENTOR(S): AKHAVAN-TAFTI, H; EICKHOLT, R A; HANDLEY, R S; LAUWERS, K S
PATENT ASSIGNEE(S): (AKHA-I) AKHAVAN-TAFTI H; (EICK-I) EICKHOLT R A; (HAND-I) HANDLEY R S; (LAUW-I) LAUWERS K S
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2004166539	A1	20040826	(200461)*		32

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2004166539	A1	US 2003-371053	20030220

PRIORITY APPLN. INFO: US 2003-371053 20030220
AN 2004-634396 [61] WPIDS
CR 2004-653018 [63]
AB US2004166539 A UPAB: 20041001
NOVELTY - A source of hydrogen peroxide is **detected** by, reacting the source of hydrogen peroxide with a signaling compound, and **detecting** the **detectable** product compound by **measuring** a **detectable** property comprising **color**, absorbance, **fluorescence**, chemiluminescence, or bioluminescence. The signaling compound itself does not possess the **detectable** property or does so only to a very weak degree.

DETAILED DESCRIPTION - **Detection** of a source of hydrogen peroxide comprises reacting the source of hydrogen peroxide with a signaling compound having a structure of formula (A), and **detecting** the **detectable** product compound by **measuring** a **detectable** property comprising **color**, absorbance, **fluorescence**, chemiluminescence, or bioluminescence. The signaling compound itself does not possess the **detectable** property or does so only to a very weak degree.

Sig-B-(OR)(OR) (A)

Sig = an aromatic, heteroaromatic ring group comprising optionally substituted coumarin ring or optionally substituted benzothiazole ring, or a non-polymeric group having a molecular mass of less than 2000;

B = a boron atom;

R = independently comprises hydrogen, alkyl or aryl groups and can be joined together as a straight or branched alkylene chain forming a ring or as an aromatic ring, to produce a **detectable** product compound of the formula Sig-OH or Sig-O-.

An INDEPENDENT CLAIM is included for a method for **measuring** the amount of hydrogen peroxide in a sample, comprising reacting the sample known or suspected to contain hydrogen peroxide with a signaling compound having formula (A)

detecting the **detectable** product compound by **measuring** a **detectable** property, where the signaling compound itself does not possess the **detectable** property or does so only to a very weak degree; and relating the **detectable** product to the amount of hydrogen peroxide.

USE - For **detecting** a source of hydrogen peroxide.

ADVANTAGE - The inventive method **detects** a source of hydrogen peroxide using signaling compounds that react with the source of hydrogen peroxide to produce a **detectable** product having a **detectable** property in which the signaling compounds do not possess the property being **detected** or does so only to a very weak degree.

DESCRIPTION OF DRAWING(S) - The graph relates the amount of hydrogen peroxide to the chemiluminescence intensity at 15 minutes emitted by 100 micro L of a reagent composition containing chemiluminescence enhancers.

Dwg.1/5

L14 ANSWER 7 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-614764 [59] WPIDS
DOC. NO. NON-CPI: N2004-486117
DOC. NO. CPI: C2004-221415
TITLE: Read head used in device for **determining concentration** of **analyte** in sample e.g. glucose in blood comprises light guide closely coupled with light source.
DERWENT CLASS: A14 A89 B04 P31 P81 S03 S05
INVENTOR(S): DOSMANN, A J; REYNOLDS, J S
PATENT ASSIGNEE(S): (FARB) BAYER HEALTHCARE LLC; (DOSM-I) DOSMANN A J; (REYN-I) REYNOLDS J S
COUNTRY COUNT: 36
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2004157341	A1	20040812	(200459)*		17
CA 2457170	A1	20040811	(200459)	EN	
EP 1447658	A1	20040818	(200459)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
JP 2004317487	A	20041111	(200474)		43
AU 2004200505	A1	20040826	(200476)		
CN 1521495	A	20040818	(200477)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2004157341	A1 Provisional	US 2003-446279P	20030211
		US 2004-770059	20040202
CA 2457170	A1	CA 2004-2457170	20040209
EP 1447658	A1	EP 2004-2865	20040210
JP 2004317487	A	JP 2004-33124	20040210
AU 2004200505	A1	AU 2004-200505	20040210
CN 1521495	A	CN 2004-39621	20040210

PRIORITY APPLN. INFO: US 2003-446279P 20030211; US 2004-770059 20040202

AN 2004-614764 [59] WPIDS
AB US2004157341 A UPAB: 20040915
NOVELTY - A read head (10) comprises a read area (30) for receiving sample, several **light emitting** elements for outputting **light** at several wavelength, a light guide (16) having input and output end (18), a lens (22) for illuminating the sample with collimated light beam and a **detector** (34). The input end of the light guide is optically coupled with **light emitting** elements for increased throughput of light from light source to the read area.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is include for a device for **measuring** the **concentration** of an **analyte** in a biological sample.

USE - In device for **determining** the **concentration** of an **analyte** in a blood (claimed) e.g. glucose.

ADVANTAGE - The read head provides increased throughput of light from the light source to the read area. The addition of the light guide results in significant improved illumination distribution and intensity across the face of the **detector**. Instrument performance is improved by illuminating a sample with light of multiple wavelength because the intervening wavelengths can be used to correct errors in the particular wavelength used to evaluate the sample.

DESCRIPTION OF DRAWING(S) - Figure shows a functional block diagram of a multi wavelength transmission read head.
Read head 10
Surface mount **light emitting** diode 12
Light guide 16
Output end 18
Collimation lens 22
Read area 30
Detector 34
Dwg.1/8

L14 ANSWER 8 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-313703 [30] WPIDS
DOC. NO. NON-CPI: N2003-249759
DOC. NO. CPI: C2003-082339
TITLE: **Fluorescent** biosensor chip, useful for **determining analytes**, e.g. nucleic acid, in binding **assays**, comprises integrated **detector**, filter layer and immobilization layer.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BREDERLOW, R; JENKER, M; PAULUS, C; SCHIENLE, M; SCHINDLER, P; THEWES, R; HOFMANN, F; JENKNER, M; LUYKEN, R J; SCHINDLER-BAUER, P; LUYKEN, J R
PATENT ASSIGNEE(S): (INFN) INFINEON TECHNOLOGIES AG
COUNTRY COUNT: 26
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003027676	A1	20030403	(200330)*	GE	81
RW: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR					
W: JP US					
DE 10145701	A1	20030410	(200332)		

EP 1428026 A1 20040616 (200439) GE
R: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
US 2004234417 A1 20041125 (200478)
JP 2005504293 W 20050210 (200511) 115

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003027676	A1	WO 2002-DE2954	20020812
DE 10145701	A1	DE 2001-10145701	20010917
EP 1428026	A1	EP 2002-758143	20020812
		WO 2002-DE2954	20020812
US 2004234417	A1 Cont of	WO 2002-DE2954	20020812
		US 2004-803175	20040316
JP 2005504293	W	WO 2002-DE2954	20020812
		JP 2003-531177	20020812

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1428026	A1 Based on	WO 2003027676
JP 2005504293	W Based on	WO 2003027676

PRIORITY APPLN. INFO: DE 2001-10145701 20010917
AN 2003-313703 [30] WPIDS
AB WO2003027676 A UPAB: 20030513
NOVELTY - **Fluorescence** biosensor chip (A) comprises a substrate (S), at least one system for **detecting** electromagnetic radiation in or on (S), an optical filter layer (OF) on (S) and an immobilization layer (IL) on OF for immobilizing capture molecules (I), where the **detector**, OF and IL are integrated into the chip.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a device (B) comprising (A) and a source of electromagnetic radiation.

USE - (A) are useful in specific binding **assays** for **analytes**, particularly nucleic acids (by hybridization) or proteins.

ADVANTAGE - (A) are less complicated and less expensive than known biosensor chips and are suitable for high-throughput **screening** including multiple simultaneous analyses on a single sample.

DESCRIPTION OF DRAWING(S) - Cross-section through a **fluorescence** biosensor chip.

Silicon substrate 201
Detection elements (photodiodes) 202
Optical filter layer 203
Layer for immobilizing capture molecules 204
Intermediate layer 205

Dwg.2/7

L14 ANSWER 9 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-300913 [29] WPIDS
CROSS REFERENCE: 2003-278818 [27]
DOC. NO. NON-CPI: N2003-239346
DOC. NO. CPI: C2003-078556

TITLE: Normalizing **assay** data, by selecting **assay** data, obtaining a linear relationship between the independent and dependent set of controls, and applying the linear relationship for producing normalized **assay** data.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): ANDERSON, R R; BODZIN, L J; RHODES, K; WARDEN, L; YGUERABIDE, J

PATENT ASSIGNEE(S): (ANDE-I) ANDERSON R R; (BODZ-I) BODZIN L J; (RHOD-I) RHODES K; (WARD-I) WARDEN L; (YGUE-I) YGUERABIDE J; (GENI-N) GENICON SCI CORP

COUNTRY COUNT: 101

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003021231	A2	20030313	(200329)*	EN	198
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW					
US 2003139886	A1	20030724	(200352)		
EP 1432971	A2	20040630	(200443)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
AU 2002331833	A1	20030318	(200452)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2003021231	A2		WO 2002-US28566	20020905
US 2003139886	A1	Provisional	US 2001-317543P	20010905
		Provisional	US 2002-364962P	20020312
		Provisional	US 2002-376049P	20020424
			US 2002-236169	20020905
EP 1432971	A2		EP 2002-768823	20020905
			WO 2002-US28566	20020905
AU 2002331833	A1		AU 2002-331833	20020905

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1432971	A2	Based on	WO 2003021231
AU 2002331833	A1	Based on	WO 2003021231

PRIORITY APPLN. INFO: US 2002-376049P 20020424; US 2001-317543P 20010905; US 2002-364962P 20020312; US 2002-236169 20020905

AN 2003-300913 [29] WPIDS

CR 2003-278818 [27]

AB WO2003021231 A UPAB: 20040813

NOVELTY - Normalizing (M1) **assay** data, comprising selecting a first and second population of **assay** data, where the first

and second population comprises a dependent or independent set of controls, respectively, obtaining a linear relationship between the independent set and dependent set of controls, and applying the linear relationship to the first population, thus producing normalized **assay** data, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) **assay** system comprising at least one type of light scattering particles configured to be bound to an analyte of interest in a sample, and a scattered light **detector** configured to analyze analytes in the sample based on **detected** scattered light of at least first and second **colors** from the sample;

(2) apparatus for **quantifying** at least two types of analytes in an **assay**, comprising at least one processor and a memory, where the processor is configured to, accept spectral intensity data from a sample, where the spectral intensity data comprises signal from at least two types of light scattering particle, and where a first particle binds to a first analyte and a second particle binds to a second analyte, convert the spectral intensity data, using multi-spectral deconvolution, into a first and second intensity that corresponds to an abundance of the first and second label, and **quantify** the first analyte from the first intensity and a **concentration** of the second **analyte** from the second intensity;

(3) analyzer for **quantifying** at least two types of analytes in multiplexed **assays**, comprising at least one processor and a memory, where the processor is configured to, accept spectral image data from a sample that includes two or more spectrally selective images, where the spectral image data is comprised of signals from two labels and where a first label binds to a first analyte and a second label binds to a second analyte, convert the two or more spectrally selective images into individual images that either contain only the first label or contain only the second label, using multispectral deconvolution, and **quantify** the first or second analyte using particle counting from the individual images that contain only the first or second label;

(4) ratiometric analysis (M2), performed on **assay** data that comprises an array of features, comprising:

(a) selecting a first and second population of **assay** data, where the first population comprises a dependent set of controls and the second population comprises an independent set of controls;

(b) obtaining a linear relationship between the independent set of controls and the dependent set of controls, and applying the linear relationship to the first population of **assay** data, thus producing a first normalized **assay** data;

(c) obtaining a second linear relationship between the second set of controls and the first set of controls, where the first set of controls is treated as an independent variable, and the second set of controls is treated as a dependent variable in the linear relationship, applying the second linear relationship to the second population of **assay** data, thus producing a second normalized **assay** data;

(d) calculating a ratio of a value of the feature in the normalized **assay** data to a value of the feature in the second normalized **assay** data; and

(e) identifying the feature as regulated if the ratio exceeds a threshold value;

(5) identifying (M3) at least one anomalous feature in **assay** data, where the **assay** data comprises an array of features,

(6) comparing a first set of **assay** data to a second set of **assay** data, by:

(a) identifying a first or second set of controls in the first set of **assay** data and a second set of controls in the second set of data, where the first set of controls and the second set of controls are treated a equivalent;

(b) obtaining a linear relationship between the first set of controls and the second set of controls;

(c) applying the linear relationship to the first or second set of **assay** data, thus transforming the first or second set of **assay** data into a third frame of reference. and

(d) within the third frame of reference, comparing a feature from the first set of **assay** data that is not in the first set of controls, to a feature from the second set of **assay** data that is not in the second set of controls;

(7) performing an analyte **assay**, by **detecting** signals from several sites from an array format thus producing **assay** data, dividing the **assay** data into a first and second population, where the first population comprises a first set of controls and the second population comprises a second set of controls, obtaining a linear relationship between the first set of controls, and the second set of controls, applying the linear relationship to the **assay** data, thus producing normalized **assay** data, and correlating the signals to an amount of analyte in each of the sites;

(8) system for normalizing **assay** data, comprising a **detector** that **detects** signals from discrete areas of the microarray and produces microarray data, and computing device having embedded there a set of instructions to transform the microarray data by selecting a first population of **assay** data and a second population of **assay** data; and

(9) computer readable medium having recorded there a set of instructions for providing normalized microarray data.

USE - M1 is useful for normalizing **assay** data (claimed) and also for enabling future data cleansing or identification.

Dwg.0/50

L14 ANSWER 10 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 2003-447376 [42] WPIDS
CROSS REFERENCE: 2001-016053 [02]
DOC. NO. NON-CPI: N2003-356759
DOC. NO. CPI: C2003-118798
TITLE: Competitive immunoassay involves growing and lysing cells, incubating and washing reaction mixture, adding substrate comprising enzyme labile group, and **measuring** signal resulting from cleavage of enzyme labile group.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CHIULLI, A C; CHIULLI, A
PATENT ASSIGNEE(S): (CHIU-I) CHIULLI A C; (APPL-N) APPLERA CORP
COUNTRY COUNT: 104
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2003008325	A1	20030109	(200342)*		24
WO 2003089014	A1	20031030	(200381)	EN	

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE
DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ
OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ
VC VN YU ZA ZM ZW

AU 2003230987 A1 20031103 (200438)
US 6794156 B2 20040921 (200462)
EP 1501553 A1 20050202 (200510) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU
LV MC MK NL PT RO SE SI SK TR
JP 2005523439 W 20050804 (200552) 24

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2003008325	A1 CIP of	US 1999-307797	19990510
		US 2002-124590	20020418
WO 2003089014	A1	WO 2003-US12081	20030418
AU 2003230987	A1	AU 2003-230987	20030418
US 6794156	B2 CIP of	US 1999-307797	19990510
		US 2002-124590	20020418
EP 1501553	A1	EP 2003-724106	20030418
		WO 2003-US12081	20030418
JP 2005523439	W	JP 2003-585765	20030418
		WO 2003-US12081	20030418

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003230987	A1 Based on	WO 2003089014
US 6794156	B2 CIP of	US 6686171
EP 1501553	A1 Based on	WO 2003089014
JP 2005523439	W Based on	WO 2003089014

PRIORITY APPLN. INFO: US 2002-124590 20020418; US 1999-307797 19990510

AN 2003-447376 [42] WPIDS
CR 2001-016053 [02]
AB US2003008325 A UPAB: 20050815
NOVELTY - A competitive immunoassay comprising:
(a) growing and lysing cells in a well(s);
(b) combining cell lysates, or sample in the well(s), a conjugate of the analyte and an enzyme and a primary antibody to form a reaction mixture;
(c) incubating and washing the reaction mixture;
(d) adding a substrate comprising an enzyme labile group; and
(e) **measuring** a signal resulting from the cleavage of the labile group, is new.
DETAILED DESCRIPTION - A competitive immunoassay comprises:
(a) providing an **assay** plate comprising well(s) coated with a capture antibody;
(b) adding a sample to the well(s);
(c) growing the cells of the sample in the well(s);
(d) lysing the cells in the well(s);
(e) combining the cell lysates, or sample in the well(s), a conjugate of the analyte and an enzyme and a primary antibody that is bound by the capture antibody and that binds, when so bound, the

analyte to form a reaction mixture;

(f) incubating the reaction mixture to permit binding of the primary antibody and the conjugate;

(g) washing the reaction to remove unbound conjugate or antibody;

(h) adding to the reaction mixture in the well(s) a substrate comprising an enzyme labile group, where the enzyme of the conjugate is capable of cleaving the enzyme labile group of the substrate; and

(i) **measuring** a signal resulting from the cleavage of the enzyme labile group. The **measured** signal can be used to **determine** the presence and/or the **concentration** of the **analyte** in the sample.

USE - The immunoassay is useful for **detecting** the amount of an analyte, e.g. cyclic guanosine monophosphate (cGMP), cyclic uridine monophosphate (cUMP), cyclic cytidine monophosphate (cCMP), or preferably optionally acetylated cyclic adenosine monophosphate (cAMP), in a sample comprising cells.

ADVANTAGE - The invention requires a fewer steps and is highly sensitive, offers a broad dynamic range, and employs reagents that can be obtained through simplified procedures.

DESCRIPTION OF DRAWING(S) - The figure shows a flowchart of the inventive method.

Dwg.1/9

L14 ANSWER 11 OF 18 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER: 2001529564 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11575798
TITLE: An integrated **fluorescence detection** system in poly(dimethylsiloxane) for microfluidic applications.
AUTHOR: Chabinyc M L; Chiu D T; McDonald J C; Stroock A D; Christian J F; Karger A M; Whitesides G M
CORPORATE SOURCE: Department of Chemistry and Chemical Biology, Harvard University, Cambridge, Massachusetts 02138, USA.
SOURCE: Analytical chemistry, (2001 Sep 15) 73 (18) 4491-8. Journal code: 0370536. ISSN: 0003-2700.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200111
ENTRY DATE: Entered STN: 20011001
Last Updated on STN: 20011105
Entered Medline: 20011101

AB This paper describes a prototype of an integrated **fluorescence detection** system that uses a microavalanche photodiode (microAPD) as the photodetector for microfluidic devices fabricated in poly(dimethylsiloxane) (PDMS). The prototype device consisted of a reusable **detection** system and a disposable microfluidic system that was fabricated using rapid prototyping. The first step of the procedure was the fabrication of microfluidic channels in PDMS and the encapsulation of a multimode optical fiber (100-microm core diameter) in the PDMS; the tip of the fiber was placed next to the side wall of one of the channels. The optical fiber was used to couple light into the microchannel for the excitation of **fluorescent analytes**. The photodetector, a prototype solid-state microAPD array, was embedded in a thick slab (1 cm) of PDMS. A thin (80 microm) **colored** polycarbonate filter was placed on the top of the embedded microAPD to **absorb** scattered excitation **light** before it reached

the **detector**. The microAPD was placed below the microchannel and orthogonal to the axis of the optical fiber. The close proximity (approximately 200 microm) of the microAPD to the microchannel made it unnecessary to incorporate transfer optics; the pixel size of the microAPD (30 microm) matched the dimensions of the channels (50 microm). A blue **light-emitting** diode was used for **fluorescence** excitation. The microAPD was operated in Geiger mode to **detect** the **fluorescence** . The **detection** limit of the prototype (approximately 25 nM) was **determined** by finding the minimum **detectable** concentration of a solution of fluorescein. The device was used to **detect** the separation of a mixture of proteins and small molecules by capillary electrophoresis; the separation illustrated the suitability of this integrated **fluorescence detection** system for bioanalytical applications.

L14 ANSWER 12 OF 18 MEDLINE on STN
ACCESSION NUMBER: 2001290005 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11373074
TITLE: **Detection** of **analytes** by immunoassay using up-converting phosphor technology.
AUTHOR: Niedbala R S; Feindt H; Kardos K; Vail T; Burton J; Bielska B; Li S; Milunic D; Bourdelle P; Vallejo R
CORPORATE SOURCE: OraSure Technologies, Inc., 150 Webster Street, Bethlehem, Pennsylvania 18015-1389, USA.. sniedbala@orasure.com
SOURCE: Analytical biochemistry, (2001 Jun 1) 293 (1) 22-30. Journal code: 0370535. ISSN: 0003-2697.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 20010820
Last Updated on STN: 20010820
Entered Medline: 20010816

AB Up-Converting Phosphor Technology (UPT) is based on lanthanide-containing, submicrometer-sized, ceramic particles that can **absorb** infrared **light** and **emit** visible **light**. Biological matrices do not up-convert; hence, there is no contribution to test background from sample autofluorescence. Up-converting phosphors do not photobleach and are inert to common **assay** interferants such as hemoglobin. A reader called UPlink has been developed to interrogate lateral flow test strips that utilize UPT labels. The reader contains a miniaturized, 1-W, infrared laser with peak emission at 980 nm. Preliminary **assays** that use up-converting phosphor labels, including tests for a drugs of abuse panel and Escherichia coli O157:H7, have been developed. In a "sandwich" **assay** format, 10(3) org/mL E. coli O157:H7 organisms were **detectable** in a negative control background of 10(9) other organisms per milliliter of culture medium. Coefficients of variation in concentrations tested from 0 to 10(7) org/mL were all < or =10%. In a competitive inhibition **assay** format, a multiplexed test simultaneously **detected** amphetamine, methamphetamine, phencyclidine, and opiates in saliva. For all **assays**, the percent displacement at 10 ng/mL was > or =40% demonstrating performance comparable with lab-based, commercially available EIAs. All **assays** were complete in 10 min. The development of rapid tests using UPT creates new

applications for on-site testing with sensitivity not available using other label technologies.

L14 ANSWER 13 OF 18 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2001409683 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11296742
TITLE: **Colorimetric determination** of formaldehyde in air using a hanging drop of chromotropic acid.
AUTHOR: Pretto A; Milani M R; Cardoso A A
CORPORATE SOURCE: Instituto de Quimica-UNESP, Dep. Quim. Analitica, C. Postal 355, CEP 14800-900, Araraquara, SP, Brazil.
SOURCE: Journal of environmental monitoring : JEM, (2000 Dec) 2 (6) 566-70.
Journal code: 100968688. ISSN: 1464-0325.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: (EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200107
ENTRY DATE: Entered STN: 20010723
Last Updated on STN: 20010723
Entered Medline: 20010719

AB A simple and sensitive method to **determine** parts per billion (ppb) of atmospheric formaldehyde in situ, using chromotropic acid, is described. A **colorimetric** sensor, coupled to a droplet of 15.5 microL chromotropic acid, was constructed and used to sample and **quantify** formaldehyde. The sensor was set up with two optical fibers, a **light emitting** diode (LED) and two photodiodes. The reference and transmitted light were **measured** by a photodetection arrangement that converts the signals into units of absorbance. Air was sampled around the chromotropic acid droplet. A purple product was formed and **measured** after the sampling terminated (typically 7 min). The response is proportional to the sampling period, **analyte concentration** and sample flow rate. The **detection** limit is approximately 2 ppb and can be improved by using longer sampling times and/or a sampling flow rate higher than that used in this work, 200 mL min-1. The present technique affords a simple, inexpensive near real-time **measurement** with very little reagent consumption. The method is selective and highly sensitive. This sensor could be used either for outdoor or indoor atmospheres.

L14 ANSWER 14 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1997-258220 [23] WPIDS
CROSS REFERENCE: 1992-399027 [48]; 1993-228922 [29]
DOC. NO. NON-CPI: N1997-213601
DOC. NO. CPI: C1997-083361
TITLE: Optical **assay** of biological fluid analytes by luminescent ligand addition - uses optically dense or **turbid** media, e.g. blood, air, water or industrial samples, for clinical monitoring etc..
DERWENT CLASS: B02 B04 S03
INVENTOR(S): LAKOWICZ, J R; SZMACINSKI, H
PATENT ASSIGNEE(S): (LAKO-I) LAKOWICZ J R
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5624847	A	19970429	(199723)*		31

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5624847	A CIP of	US 1991-694282	19910503
		US 1993-102806	19930806

PRIORITY APPLN. INFO: US 1993-102806 19930806; US 1991-694282 19910503

AN 1997-258220 [23] WPIDS

CR 1992-399027 [48]; 1993-228922 [29]

AB US 5624847 A UPAB: 19970828

Measuring analytes optically, comprises: (a) adding a photoluminescent ligand probe to the sample containing the analyte, which is an ionic solute, so that:(i) the probe is bound non-covalently to the ionic solute;(ii) both bound and unbound probe species exist in the sample, and(iii) the probe has intrinsic analyte-induced lifetime changes; (b) exciting the sample with radiation; (c) **detecting** the emission beam from both bound and unbound species, and (d) performing a calculation to find the apparent luminescence lifetime of the emission, to **determine** the **analyte concentration** in the sample.

USE - The method can be used for the continuous in vivo monitoring of blood gases (claimed). The samples to be **assayed** may be biological fluids, including blood, lymph, cerebrospinal or gastrointestinal fluid secretions of skin, gall bladder, reproductive organs or extracts or cultures of cells or tissues. Non-biological fluids include air, water, or earth samples or industrial products including fermentation media. Examples of actual analytes are hydrogen ions and CO2, e.g. in blood. The **assays** are usually performed for monitoring e.g. of blood gases, in clinical care or for other purposes.

ADVANTAGE - The method can be done on-site, provided that an excitation source, laser or **light-emitting** diode, is available. This avoids the necessity of sample shipment to a clinical laboratory, with possible **analyte concentration** changes. It can be used in optically dense or **turbid** samples and is insensitive to photobleaching. Monitoring can be continuous if desired. The probes recommended are available commercially as wavelength-shift pH indicators or from details in US4945171.

Dwg.1/18

L14 ANSWER 15 OF 18 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 1996:411994 SCISEARCH

THE GENUINE ARTICLE: UN470

TITLE: Analytical chemistry in a drop. Solvent extraction in a microdrop

AUTHOR: Liu H H (Reprint); Dasgupta P K

CORPORATE SOURCE: TEXAS TECH UNIV, DEPT CHEM & BIOCHEM, LUBBOCK, TX 79409

COUNTRY OF AUTHOR: USA

SOURCE: ANALYTICAL CHEMISTRY, (1 JUN 1996) Vol. 68, No. 11, pp. 1817-1821.
ISSN: 0003-2700.
PUBLISHER: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: PHYS; LIFE
LANGUAGE: English
REFERENCE COUNT: 23
ENTRY DATE: Entered STN: 1996
Last Updated on STN: 1996

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB An organic microdrop (similar to 1.3 mu L) is suspended inside a flowing aqueous drop from which the analyte is extracted, The drop-in-drop system is achieved by a multitube assembly. The aqueous phase is continuously delivered to the outer drop and is aspirated away from the bottom meniscus of the drop, After the sampling/extraction period, a wash solution replaces the sample/reagent in the aqueous layer, resulting in a clear outer aqueous drop housing a **colored** organic drop containing the extracted material, This also results in an automatic backwash, The **color** intensity of the organic drop, related to the **analyte concentration**, is monitored by a **light-emitting** diode based absorbance **detector**, After the analytical cycle, the organic drop is removed and replaced by a new one, The performance of the system is illustrated with the **determination** of sodium dodecyl sulfate (a methylene blue active substance) extracted as an ion pair into chloroform, This unique microextraction system is simple and flexible, permits automated backwashing, consumes only microquantities of organic solvents, and is capable of being coupled with other analytical systems, This concept should prove valuable for preconcentration and matrix isolation in a microscale.

L14 ANSWER 16 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1996-049183 [05] WPIDS
DOC. NO. NON-CPI: N1996-041280
TITLE: Spectrophotometer arrangement for e.g. **quantitative** chemical analysis of body fluid e.g. blood or urine - has number of LED's with non-overlapping spectral response for **detecting** light from artificially illuminated biological test sample, and mounted on base of same housing assembly with common front window.
DERWENT CLASS: S03
INVENTOR(S): DOSMANN, A J
PATENT ASSIGNEE(S): (FARB) BAYER CORP; (MILE) MILES INC; (MILE) MILES LAB INC
COUNTRY COUNT: 8
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5477326	A	19951219	(199605)*		8
EP 690304	A1	19960103	(199606)	EN	9
R: DE FR GB IT					
JP 08015016	A	19960119	(199613)		8
CA 2146845	A	19951231	(199617)		
AU 9523221	A	19960118	(199620)		

AU 679369 B 19970626 (199734)
EP 690304 B1 20011017 (200169) EN
R: DE FR GB IT
DE 69523216 E 20011122 (200201)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5477326	A	US 1994-269363	19940630
EP 690304	A1	EP 1995-109420	19950619
JP 08015016	A	JP 1995-148675	19950615
CA 2146845	A	CA 1995-2146845	19950411
AU 9523221	A	AU 1995-23221	19950623
AU 679369	B	AU 1995-23221	19950623
EP 690304	B1	EP 1995-109420	19950619
DE 69523216	E	DE 1995-623216	19950619
		EP 1995-109420	19950619

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 679369	B	Previous Publ.	AU 9523221
DE 69523216	E	Based on	EP 690304

PRIORITY APPLN. INFO: US 1994-269363 19940630
AN 1996-049183 [05] WPIDS
AB US 5477326 A UPAB: 19960205
The spectrophotometer arrangement involves an appts. (10) which has an artificial light source (12), a test tube (18) containing a sample liquid, a photometer **detector** assembly or read head (14) and processing circuitry (16). The **detector** assembly includes a number e.g. four **detector** LED's (30,32,34,36) each responding to a different wavelength i.e. red, green, blue, infrared, mounted onto a PCB base (38) and covered by a transparent window (58) in a cylindrical housing (60).

The infrared LED is used to **determine** a reference value corresponding to negligible light absorbed absorption. All the LED's have non-overlapping spectral responses, thus the housing does not require spectral response limiting filters, and special partitions to prevent optical crosstalk between LED's.

USE/ADVANTAGE - E.g. for **measuring** **concentrations** of **colour**-developed **analytes** with different absorption bands. More compact and cheaper/easier to manufacture due to absence of requirement for optical filters and housing partitions.
Dwg.1,5/5

L14 ANSWER 17 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-139402 [18] WPIDS
CROSS REFERENCE: 1990-245983 [32]; 1991-006719 [01]; 1992-024116 [03]
DOC. NO. NON-CPI: N1990-108064
TITLE: Permeation absorption sampler with multiple **detection** - is especially for **measuring** vapour samples in air and produces chemiluminescence **detected** by suitable light sensor.
DERWENT CLASS: S03
INVENTOR(S): ZARCOMB, S

PATENT ASSIGNEE(S): (UYCH-N) UNIV CHICAGO; (USAT) US DEPT ENERGY
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 4912051	A	19900327	(199018)*		
US 330654	A0	19910305	(199114)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4912051	A	US 1989-330654	19890330
US 330654	A0	US 1989-50391	19890330

PRIORITY APPLN. INFO: US 1989-330654 19890330; US 1986-892990 19860804; US 1989-50391 19890330

AN 1990-139402 [18] WPIDS
CR 1990-245983 [32]; 1991-006719 [01]; 1992-024116 [03]
AB US 4912051 A UPAB: 20040810
The sampler has a preconcentrator has an inner fluid-permeable container into which a charge of **analyte**-sorbing liquid is intermittently injected, and a fluid-impermeable outer container. The sample is passed through the outer container and around the inner container for trapping and preconcentrating the **analyte** in the sorbing liquid. The **analyte** can be **detected** photometrically by injecting with the sorbing material a reagent which reacts with the **analyte** to produce a characteristic **colour** or **fluorescence** which is **detected** by illuminating the contents of the inner container with a **light** source. The **absorbed** or **emitted** **light** is **measured.**

The **analyte** can also be **detected** amperometrically. Multiple inner containers may be provided into which several sorbing liquids are respectively introduced for simultaneously **detecting** different **analytes.**

USE/ADVANTAGE - **Measurement** of vapour samples in air from ppm to pp6 (parts per billion) more flexible wrt. concentration range and frequency of **measurement.**

ABEQ US 7330654 A UPAB: 19930928
The system for **detecting analytes** in air or aqueous systems includes a permeation absorption preconcentrator sampler for the **analytes** and **analyte** **detectors.** The preconcentrator has an inner fluid-permeable container into which a charge of **analyte**-sorbing liquid is intermittently injected, and a fluid-impermeable outer container. The sample is passed through the outer container and around the inner container for trapping and preconcentrating the **analyte** in the sorbing liquid.

The **analyte** can be **detected** photometrically by injecting with the sorbing material a reagent which reacts with the **analyte** to produce a characteristic **color** or **fluorescence** which is **detected** by illuminating the contents of the inner container with a light source and **measured** the **absorbed** or **emitted** **light,** or by producing a characteristic chemiluminescence

which can be **detected** by a suitable light sensor. The **analyte** can also be **detected** amperometrically. Multiple inner containers may be provided into which sorbing liquids are respectively introduced for simultaneously **detecting** different **analytes**. Baffling may be provided in the outer container.

ADVANTAGE - Efficient, maximises absorbtion. @@

L14 ANSWER 18 OF 18 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1989-308989 [42] WPIDS
DOC. NO. NON-CPI: N1989-235430
DOC. NO. CPI: C1989-136819
TITLE: Device for **assaying** fluid samples for analyte - with chemiluminescence moiety displaced to react with co-factors to produce light emission.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): HELLER, M J; MORRISON, L E
PATENT ASSIGNEE(S): (STAD) AMOCO CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 4859583	A	19890822	(198942)*		11

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4859583	A	US 1985-705493	19850225

PRIORITY APPLN. INFO: US 1985-705493 19850225
AN 1989-308989 [42] WPIDS
AB US 4859583 A UPAB: 19930923
A sample device for **assaying** fluid samples potentially containing an analyte which is a member of a ligand-antiligand pair comprises a containment vessel adapted to receive a fluid sample and containing a reagent, the vessel having a first chamber, a second chamber and cofactor blocker. The reagent includes a cofactor source and reagent members of a ligand-antiligand pair specific to the analyte of interest. One of the reagent members is restricted in the first chamber, the opposing reagent member having a label. The cofactor source provides cofactors which participate in a reaction with the label, which reaction is **detectable**. The first chamber is in fluid communication with the second chamber and the cofactor blocker is interposed between the first and second chambers limiting the presence of the cofactor to the second chamber, allowing the label to be **detected** in the second chamber to the exclusion of the first chamber. The opposing reagent member has a label assuming a concentration in the second chamber in relation to the **concentration** of **analyte**.

The cofactor source may include a cofactor generating catalyst e.g. glucose oxidase immobilised on a transparent surface. The label may be e.g. peroxidase. The cofactor blocker may be a cofactor scavenger catalyst, e.g. catalase.

USE/ADVANTAGE - The device can be used for **assaying** low mol. weight antigens and/or antibodies and is adaptable to automated techniques and is functional in **turbid** sample solns.

5/5

(FILE 'CAPLUS' ENTERED AT 15:53:58 ON 12 DEC 2005)
L15 640 SEA FILE=CAPLUS ABB=ON PLU=ON (ANALYTE OR ENZYME) AND LIGHT(3A)EMIT?
L16 76 SEA FILE=CAPLUS ABB=ON PLU=ON L15 AND (TURBID? OR COLOUR? OR COLOR?)
L17 57 SEA FILE=CAPLUS ABB=ON PLU=ON L16 AND (MEAS? OR DETERM? OR DETECT? OR DET## OR SCREEN? OR QUANT? OR ASSAY?)
L18 5 SEA FILE=CAPLUS ABB=ON PLU=ON L17 AND LIGHT(3A)ABSORB?

L19 2 S L18 NOT L8

L19 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ED Entered STN: 25 Feb 2005
ACCESSION NUMBER: 2005:160745 CAPLUS
DOCUMENT NUMBER: 142:214847
TITLE: High sensitivity spectrophotometric **assays**
INVENTOR(S): Brocia, Robert W.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 4 pp., Cont.-in-part of U.S. Ser. No. 496,806.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005042707	A1	20050224	US 2004-775953	20040209
PRIORITY APPLN. INFO.:			US 1995-496806	B2 19950629

AB Spectrophotometric **assays** are rendered more sensitive by adding to the **assay** mixture a **light-emitting** moiety. The decrease in intensity of **light emitted** due to the presence of a **light-absorbing** moiety associated with the photometric **assay** is much more sensitive to **analyte** than the **absorbance** of the **light-absorbing** moiety itself.

L19 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ED Entered STN: 19 Oct 2000
ACCESSION NUMBER: 2000:736842 CAPLUS
DOCUMENT NUMBER: 134:361920
TITLE: Luminometric **Quantitation** of Photinus pyralis Firefly Luciferase and Escherichia coli β-Galactosidase in Blood-Contaminated Organ Lysates
AUTHOR(S): Smith, Andrew D.; Trempe, James P.
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Medical College of Ohio, Toledo, OH, 43614, USA
SOURCE: Analytical Biochemistry (2000), 286(1), 164-172
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Firefly luciferase and Escherichia coli β-galactosidase chemiluminescent reporter gene **assays** are rapid and

sensitive means of **detecting** reporter **enzyme** activities in cell lysates of both eukaryotic and prokaryotic systems. In these **assays**, expression vectors containing the luciferase or β-galactosidase genes are transferred to cells in culture or animal tissues in vivo. Crude cell or organ lysates are then prepared and submitted to **enzyme assays**. The level of **enzyme** activity is proportional to the efficiency of gene delivery and expression. When used with modified substrates that **emit light** when cleaved by the appropriate **enzyme**, luciferase and β-galactosidase activity can be **detected** luminometrically. Attempts to apply these **assays** to cell lysates contaminated with blood, as from any whole organ lysate, have had questionable results thus far because of light absorption by Hb in the ranges of light emission by both of these **assays**. We have made several adjustments to standard chemiluminescent reporter gene **assay** protocols to minimize errors in **quantitation** contributed by Hb. To this end, we have developed a method for **quantitating** the protein due to blood and due to the organ itself in a blood-contaminated organ lysate. We have also found that the use of a **colorimetric** protein **assay** that is unaffected by Hb absorbance is preferred for protein **quantitation**. In conclusion, luciferase and β-galactosidase **assays** can be applied to blood-contaminated organ lysates; however, the luciferase **assay** proved to be superior due to minimal endogenous activity and lower absorption by Hb of **light emitted** by the **enzyme** product. (c) 2000 Academic Press.

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:57:15 ON 12 DEC 2005)

L20 14 S L18
L21 2 S L20 NOT L13
L22 2 DUP REM L21 (0 DUPLICATES REMOVED)

L22 ANSWER 1 OF 2 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-482554 [45] WPIDS
DOC. NO. NON-CPI: N2003-383714
DOC. NO. CPI: C2003-129153
TITLE: Monitoring of absorbance of sample containing **analyte**, e.g. protein, involves directing beams of light through portion of sample, and analyzing reference absorbance and **measured** sample absorbance to obtain true sample absorbance.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): JONES, G R; LUDLOW, J D V; LUDLOW, D V
PATENT ASSIGNEE(S): (BIOT-N) BIOTRACE LTD; (JONE-I) JONES G R; (LUDL-I) LUDLOW D V
COUNTRY COUNT: 102
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003046521	A1	20030605	(200345)*	EN	25

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE

DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM
PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ
VC VN YU ZA ZM ZW

AU 2002365487 A1 20030610 (200419)
EP 1448976 A1 20040825 (200456) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV
MC MK NL PT RO SE SI SK TR
US 2005079627 A1 20050414 (200526)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003046521	A1	WO 2002-GB5397	20021120
AU 2002365487	A1	AU 2002-365487	20021120
EP 1448976	A1	EP 2002-803875	20021120
		WO 2002-GB5397	20021120
US 2005079627	A1	WO 2002-GB5397	20021120
		US 2004-496026	20041123

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002365487	A1 Based on	WO 2003046521
EP 1448976	A1 Based on	WO 2003046521

PRIORITY APPLN. INFO: GB 2001-27861 20011120
AN 2003-482554 [45] WPIDS
AB WO2003046521 A UPAB: 20030716
NOVELTY - Monitoring an absorbance of a sample by directing a first beam of light through a portion of the sample and **measuring** the absorbance of first wavelength to obtain a reference absorbance, is new. A second beam of light is directed along optical path and the absorbance of the sample is **measured**. The reference and **measured** sample absorbance are analyzed to obtain a true sample absorbance.

DETAILED DESCRIPTION - Monitoring of absorbance of sample, comprising directing a first beam of light having first wavelength along an optical path through a portion of the sample and **measuring** the absorbance of first wavelength to obtain a reference absorbance, is new. A second beam of light has a second wavelength along the optical path and **measuring** the absorbance of the sample to obtain a **measured** sample absorbance. The reference absorbance and the **measured** sample absorbance are analyzed to obtain a true sample absorbance.

An INDEPENDENT CLAIM is also included for an apparatus for monitoring the absorbance of a sample, comprising first **light** source (5) for **emitting** at first wavelength through the sample along an optical path, a second **light** source (6) for **emitting light** at second wavelength, and **detector** for **measuring** the **absorbance** of the **light emitted** from the first and second light source, which was passed through the sample.

USE - The method is for monitoring an absorbance of a sample containing **analyte** e.g. product of chemical or biochemical reaction, biological material, micro-organism, protein, or bacteria. It is also useful in **measuring** the **color** of the

sample undergoing a **color** change during chemical reaction.

ADVANTAGE - The inventive method assures that the true sample absorbance is not affected by external factors, thus canceling out the variables in the true sample absorbance.

DESCRIPTION OF DRAWING(S) - The drawing shows an apparatus used for monitoring absorbance of a sample.

First light source 5

Second light source 6

Reflector 7

Sapphire ball lens 9.

Dwg.1/2

L22 ANSWER 2 OF 2 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 1995-061100 [08] WPIDS

DOC. NO. NON-CPI: N1995-048544

DOC. NO. CPI: C1995-027203

TITLE: **Detection** of **analytes** in samples - by **measuring** changes in **absorbed** or **emitted light** of a polymerised lipid layer and **analyte** binding molecule.

DERWENT CLASS: B04 D16 J04 S03

INVENTOR(S): GAUB, H; MURDOCH, J; RIBI, H O; SULLIVAN, B

PATENT ASSIGNEE(S): (BIOC-N) BIOCIRCUITS CORP

COUNTRY COUNT: 18

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9501569	A1	19950112	(199508)*	EN	22
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: CA JP					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9501569	A1	WO 1994-US7322	19940629

PRIORITY APPLN. INFO: US 1993-84884 19930629

AN 1995-061100 [08] WPIDS

AB WO 9501569 A UPAB: 19950301

A method for **detecting** the presence of an **analyte** in a sample is claimed by using a polymerised lipid layer and an associated binding molecule capable of binding with the **analyte**, comprising contacting the **analyte** with the polymerised lipid layer for binding of the binding molecule with the **analyte**, whereby the **absorbed** or **emitted light** of the polymerised lipid layer changes in response to the presence of the **analyte**.

USE - The method can be used for the **detection** of **analytes** such as DNA, viruses, antigens, antibodies and bacteria.

ADVANTAGE - The binding of the **analyte** can cause a **colour** shift in the **absorbed** or **emitted light** or a change in intensity of **emitted light** to provide an easy **detection** method for a wide variety of **analytes**.

Dwg.0/0

FILE 'HOME' ENTERED AT 16:00:22 ON 12 DEC 2005

Searcher : Shears 571-272-2528

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=> d his ful

     (FILE 'CAPLUS' ENTERED AT 15:43:04 ON 12 DEC 2005)
                DEL HIS Y
L1         420494 SEA ABB=ON  PLU=ON  (ANALYTE OR ENZYME) AND (MEAS? OR
                  DETERM? OR DETECT? OR DET## OR SCREEN? OR QUANT? OR
                  ASSAY?)
L2            516 SEA ABB=ON  PLU=ON  L1 AND LIGHT(3A)EMIT?
L3             57 SEA ABB=ON  PLU=ON  L2 AND (TURBID? OR COLOUR? OR COLOR?)
L4             16 SEA ABB=ON  PLU=ON  L3 AND FLUORESCEN?
                  D KWIC
                  D QUE
L5          16390 SEA ABB=ON  PLU=ON  (ANALYTE OR ENZYME)(5A)(CONCENTRAT? OR
                  CONC##) AND (MEAS? OR DETERM? OR DETECT? OR DET## OR
                  SCREEN? OR QUANT? OR ASSAY?)
                  D KWIC
L6             58 SEA ABB=ON  PLU=ON  L5 AND LIGHT(3A)EMIT?
L7              5 SEA ABB=ON  PLU=ON  L6 AND (TURBID? OR COLOUR? OR COLOR?)

     FILE 'CAPLUS' ENTERED AT 15:48:43 ON 12 DEC 2005
                D QUE L4
                D QUE L7
L8             21 SEA ABB=ON  PLU=ON  L4 OR L7
                  D 1-21 IBIB ABS

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 15:49:01 ON 12 DEC 2005
L9             67 SEA ABB=ON  PLU=ON  L4
L10            12 SEA ABB=ON  PLU=ON  L7
L*** DEL       75 S L9 OR L10
L*** DEL       64 DUP REM L11 (11 DUPLICATES REMOVED)
                  D QUE L9
L11            10 SEA ABB=ON  PLU=ON  L9 AND LIGHT(3A) ABSORB?
L12             2 SEA ABB=ON  PLU=ON  L9 AND (PRECIPITAT? OR PRECIP##)
L13            21 SEA ABB=ON  PLU=ON  L10 OR L11 OR L12
L14            18 DUP REM L13 (3 DUPLICATES REMOVED)
                  D 1-18 IBIB ABS

     FILE 'CAPLUS' ENTERED AT 15:53:58 ON 12 DEC 2005
L15           640 SEA ABB=ON  PLU=ON  (ANALYTE OR ENZYME) AND LIGHT(3A)EMIT?

                  D KWIC
L16            76 SEA ABB=ON  PLU=ON  L15 AND (TURBID? OR COLOUR? OR COLOR?)

L17            57 SEA ABB=ON  PLU=ON  L16 AND (MEAS? OR DETERM? OR DETECT?
                  OR DET## OR SCREEN? OR QUANT? OR ASSAY?)
L18             5 SEA ABB=ON  PLU=ON  L17 AND LIGHT(3A)ABSORB?
                  D QUE
L19             2 SEA ABB=ON  PLU=ON  L18 NOT L8
                  D 1-2 .BEVERLY
                  D 1-21 IBIB ABS

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 15:55:56 ON 12 DEC 2005

     FILE 'CAPLUS' ENTERED AT 15:56:32 ON 12 DEC 2005
                D QUE L18
                D L19 1-2 .BEVERLY
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FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:57:15 ON 12 DEC 2005

L20 14 SEA ABB=ON PLU=ON L18
L21 2 SEA ABB=ON PLU=ON L20 NOT L13
L22 2 DUP REM L21 (0 DUPLICATES REMOVED)
D 1-2 IBIB ABS

FILE 'HOME' ENTERED AT 16:00:22 ON 12 DEC 2005

FILE CAPLUS

FILE COVERS 1907 - 12 Dec 2005 VOL 143 ISS 25
FILE LAST UPDATED: 11 Dec 2005 (20051211/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply They are available for your review at:

http://www.cas.org/infopolicy.html

FILE MEDLINE
FILE LAST UPDATED: 8 DEC 2005 (20051208/UP). FILE COVERS 1950 TO DAT

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 will soon be available. For details on the 2005 reload, enter HELP RLOAD at an arrow promt (=>).
See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med.data.changes.ht
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 7 December 2005 (20051207/ED)

FILE EMBASE
FILE COVERS 1974 TO 8 Dec 2005 (20051208/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE WPIDS
FILE LAST UPDATED: 8 DEC 2005 <20051208/UP>
MOST RECENT DERWENT UPDATE: 200579 <200579/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://thomsonderwent.com/coverage/latestupdates/ <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://thomsonderwent.com/support/userguides/ <<<

>>> NEW! FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX FIRST VIEW - FILE WPIFV.
FOR FURTHER DETAILS: http://www.thomsonderwent.com/dwpifv <<<

>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501. PLEASE CHECK:
http://thomsonderwent.com/support/dwpiref/reftools/classification/code FOR DETAILS. <<<

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html <

FILE CONFSCI
FILE COVERS 1973 TO 25 May 2005 (20050525/ED)

FILE SCISEARCH

FILE COVERS 1974 TO 8 Dec 2005 (20051208/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE JICST-EPLUS
FILE COVERS 1985 TO 6 DEC 2005 (20051206/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE JAPIO
FILE LAST UPDATED: 7 DEC 2005 <20051207/UP>
FILE COVERS APR 1973 TO AUGUST 25, 2005

<<< GRAPHIC IMAGES AVAILABLE >>>

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>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html <

FILE HOME

Searcher : Shears 571-272-2528